COMMONWEALTH MYCOLOGICAL INSTITUTE

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

VOL. II 1954 PART 3

434. MARIAT (F.) & DROUHET (E.). **Action de la biotine sur la croissance de Sporotrichum schencki.** [Effect of biotin on the growth of *Sporotrichum schencki*.] —*Ann. Inst. Pasteur*, 84, 3, pp. 659–662, 2 graphs, 1953.

Strong concentrations of biotin ($1 \cdot 10^{-7}$ or $1 \cdot 10^{-8}$) stimulated the growth of *Sporotrichum schencki* and favoured the evolution of the yeast phase in cultures containing pyrimidine, the latter being absolutely essential to the development of the pathogen.

435. YOUNG (J. C.), SHACKELFORD (P. O.), LAMB (J. H.), & KOONS (R. C.). **Sporotrichosis with formation of sporotrichids.**—*Mycopathologia*, 6, 3, pp. 235–236, 1952. [French summary.]

A case of sporotrichosis (*Sporotrichum schencki*) with sporotrichid extension is reported from Connecticut. Diagnosis was delayed, as satisfactory cultures were obtained only after animal inoculation and the clinical symptoms were not typical. A cure was effected by the use of an organic form of iodine (organidin) after severe sensitivity to potassium iodide had developed.

436. YOUNG (J. M.) & ULRICH (ELIZABETH). **Sporotrichosis produced by Sporotrichum gougeroti. Report of a case and review of the literature.**—*Arch. Derm. Syph., Chicago*, 67, 1, pp. 44–52, 3 figs., 1953.

Sporotrichum gougeroti was isolated on Sabouraud's agar and Littman's ox gall medium at room temperature and on Thompson's medium at 37° C. from a subcutaneous tumour on the lateral surface of the left wrist of a 33-year-old patient at the Kennedy Veterans' Administration Hospital, Memphis, Tennessee.

437. NICKERSON (W. J.). **Report of Committee on Medical and Veterinary Mycopathology.**—*Int. Bull. Bact. Nomencl. Tax.*, 2, 4, pp. 143–150, 1952.

In this report of the Special Committee on Medical and Veterinary Mycopathology the proceedings of the first meeting of the Committee are summarized. The Committee considered the lists of names of fungi pathogenic to man and animals compiled by the Mycological Society of America, and the Commonwealth Mycological Institute, Kew, and the Medical Research Council Memorandum No. 23 [1, No. 1554] and a revised 'List of recommended names of fungi pathogenic for man and animals' is given.

438. NICKERSON (W. J.). **Medical mycology.**—*Annu. Rev. Microbiol.*, 7, pp. 245–272, 1 graph, 1953.

This survey of advances made in the study of fungi pathogenic to man from 1948 to 1952, inclusive [1, No. 1809], is based on 245 contributions to the literature. The main points dealt with are mycotic infections and public health, geographical distribution, isolation from soil, isolation and identification

methods, experimental infections, manifestations of fungal infection after anti-bacterial therapy, chemotherapy, and physiology and morphogenesis of pathogenic fungi.

439. Reiss (F.). **Medical mycology.**—*Dermatologica, Basel,* 107, 2, pp. 135–160, 1953.

Recent contributions to the literature on medical mycology and reviewed under the headings of general laboratory and investigative methods, tinea capitis, dermatophytoses, candidiasis, tinea versicolor, pathology and surgery of the deep mycoses, coccidioidomycosis, actinomycosis, blastomycosis, cryptococcosis, sporotrichosis, histoplasmosis, geotrichosis, and tropical mycoses.

440. **Fungi.**—*Ex* **Parasitology (1949–1950).**—Unesco Science Cooperation Office for Latin America, Montevideo, pp. 215–250, 1953.

Latin-American contributions to medical mycology in 1949 and 1950 are reviewed by J. E. Mackinnon *et al.* under the headings of dermatophytes, yeasts, *Actinomyces* and actinomycosis, maduromycosis, *Sporotrichum schencki* and sporotrichosis, chromoblastomycosis and its agents, *Coccidioides immitis* and coccidioidomycosis, *Histoplasma capsulatum* and histoplasmosis, *Paracoccidioides brasiliensis* and close species (Lutz's blastomycosis and Lobo's disease), *Rhinosporidium seeberi* and rhinosporidiosis, *Cryptococcus neoformans* and cryptococcosis (torulosis), aspergillosis, and various pathogenic fungi and various mycoses.

441. Moss (Emma S.) & McQuown (A. L.). **Atlas of medical mycology.**—ix+245 pp., 248 figs., Baltimore, Williams & Wilkins Co., London, Baillière, Tindall & Cox, 1953. $8.00 or 61*s.* 6*d.*

This atlas originated in a series of exhibits for medical conventions, demonstrations, and lectures, prepared as part of the training programme for residents, students, and technologists at the Charity Hospital, New Orleans, Louisiana. It comprises sections on the classification of fungi, a number of individual mycoses, methods for the collection of specimens, direct examination, culture, etc., immunology, culture media, and a glossary.

442. Negroni (P.). **Clasificación clínica y etiológica de las micosis profundas.** [Clinical and etiological classification of the deep mycoses.]—*Medicamenta, Madr.,* 10, 223, pp. 139–141, 1952.

An account of this work on the classification of the deep mycoses has already been noticed from another source [1, No. 2370].

443. Raphael (S. S.) & Schwarz (J.). **Occupational hazards from fungi causing deep mycoses.**—*Arch. industr. Hyg.,* 8, 2, pp. 154–165, 1 map, 1953.

This is a review of some important contributions to the literature on the risks incurred in occupations involving contact with fungi causing deep mycoses, e.g., *Coccidioides immitis*, *Histoplasma capsulatum*, and *Sporotrichum schencki*.

444. Vanbreuseghem (R.). **Réflexions sur quelques problèmes de mycologie médicale à propos des mycoses congolaises.** [Comments on some problems of medical mycology in connexion with Congolese mycoses.]—*Bull. Acad. Méd. Belg.,* Sér. VI, 18, 1, pp. 63–75, 1953.

The author has compiled a useful survey of the literature on the occurrence and distribution of mycoses in the Belgian Congo, embodying information already noticed from other sources in this *Review*.

445. Gridley (Mary F.). **A stain for fungi in tissue sections.**—*Amer. J. clin. Path.*, 23, 3, pp. 303–307, 6 figs., 1953.

At the Armed Forces Institute of Pathology, Washington, D.C., the author found that a combination of Gomori's aldehyde-fuchsin stain (*Amer. J. clin. Path.*, 20, pp. 665–666, 1950) and the Hotchkiss–McManus technique [2, Nos. 163, 365] effectively demonstrated the presence of mycelia and conidia in sections of human and animal tissue, bringing out septa, branching forms, conidiophores, and sterigmata. Yeast and budding forms also stain well. For instance, against the contrasting background of metanil yellow human and bovine cryptococci [*Cryptococcus neoformans*] stained pale rose in the centre, surrounded by a deep purple ring, sometimes with a clear zone and another purple ring beyond. *Histoplasma* [*capsulatum*] (bovine lymph node) stained lavender, with a deep purple capsule; *Mucor* (canine kidney) rose to deep purple; the capsule of *Coccidioides immitis* deep blue and the endospores blue with a deep, solid-blue centre; the hyphae of *Aspergillus fumigatus* (human nose and palate) deep blue; and the hyphae and conidia of *Malassezia furfur* deep rose to purple.

446. Martin (H. L.). **The inhibitory effect on the growth of certain fungi by a strain of Escherichia coli intermediate.**—*Antibiot. & Chemother.*, 3, 9, pp. 861–865, 4 figs., 1953.

At the Louisiana State University of Medicine, New Orleans, one or more substances produced by a strain of *Escherichia coli* during 72 hours' culture in brain–heart infusion broth at 20° to 25° C. exerted a more or less pronounced fungistatic effect on Sabouraud's agar cultures of various fungi pathogenic species. Using a scale in which 0 represents no inhibition and 4 complete suppression as compared with the growth of the control series, the degree of 4 was assigned to *Trichophyton rubrum*, *Candida albicans*, and *Blastomyces dermatitidis* and 3 to *Microsporum canis*, *Coccidioides immitis*, *Sporotrichum schencki*, and *Blastomyces dermatitidis*.

447. Rebell (G.) & Lamb (J. H.). **In vitro study of a group of blocked steroids as anti-mycotic agents.**—*J. invest. Derm.*, 21, 5, pp. 331–335, 1953.

In vitro tests of the activity of 16 steroid compounds [cf. 2, No. 451], blocked at position 3 by the substitution of a methyl group for hydroxyl hydrogen, against a number of pathogenic fungi are reported from the Oklahoma Medical Research Institute and Hospital. Only 3β-methoxy-17β-hydroxy-Δ^5-and-rostene-17α- acetic acid and Δ^5-pregnene-3β, 20α-diol-3-methyl ether showed any activity at a concentration of 0·1 per cent. against *Blastomyces dermatitidis*, *Histoplasma capsulatum*, and *Coccidioides immitis*, the former also inhibiting the growth of *Nocardia asteroides*. None of the compounds controlled the development of *Trichophyton mentagrophytes*, *Microsporum canis*, *Candida albicans*, or *Cryptococcus neoformans*. The fungistatic action of steroid compounds would appear to be related to their long fatty acid chains rather than to their hormonal activity.

448. Janke (R. G.). **Isolierung von Sprosspilzen und hefeähnlichen Pilzen aus dem Blut.** [Isolation of budding and yeast-like fungi from the blood.]—*Z. Haut- u. Geschlechtskr.*, 15, 10, pp. 320–322, 4 figs. (between pp. 326 and 328), 1953.

From the University Clinic for Skin Diseases, Vienna, the author describes a procedure for the isolation of budding fungi from blood samples on a medium consisting of two-thirds bouillon and one-third malt wort or in Sabouraud's solution. Of 490 specimens investigated, 35 from 12 patients were positive for species of *Torulopsis*, *Candida* (including *C. parapsilosis*), *Saccharomyces*, *Trichosporum*, and *Rhodotorula*.

449. Moore (M.). **Unusual mycoses caused by uncommon or rare fungi.**—*Trans. N.Y. Acad. Sci.*, Ser. II, 15, 6, pp. 219–224, 1953.

Three cases of mycosis are reported from the Barnard Free Skin and Cancer Hospital, St. Louis, Missouri, firstly on account of the rarity of the causal organisms and secondly because of the unusual lesions produced. They are (1) onychomycosis in a 14-year-old girl caused by combined infection with *Candida parapsilosis* and a species of *Hyalopus* having much in common with *H. keratoplasticum*; (2) nocardiosis of the knee in a 49-year-old male due to *Nocardia* (?) *brasiliensis*; and (3) mycetoma of the right hand and arm of a 64-year-old cotton-picker (necessitating supracondylar amputation), in which the agent was a *Madurella* agreeing in many respects with *M. ikedae*.

The mycology and classification of the pathogens are discussed and a bibliography of 23 titles is appended.

450. Coutts (W. E.), Vargas-Salazar (R.), & Silva (Edna). **Fungal, viral, spirochetal, proto- or metazoan infection or infestation of the urinary tract, particularly in relation to a bacterial pyuria.**—*Urol. cutan. Rev.*, 55, 3, pp. 148–159, 1951.

It is concluded from a review of the pertinent literature that fungal infection of the urogenital tract, e.g., by *Candida*, *Saccharomyces*, *Actinomyces*, and *Aspergillus* spp., is far more prevalent than was formerly supposed and probably accounts for many obscure disorders.

451. Kull (F. C.), Castellano (G. A.), & Mayer (R. L.). **The in vitro anti-microbial activities of certain amino steroids.**—*J. invest. Derm.*, 21, 4, pp. 227–228, 1953.

The results of *in vitro* tests of a number of water-soluble steroid compounds with amino constituents against *Trichophyton rubrum*, *T. mentagrophytes*, *Candida albicans*, *Nocardia asteroides*, and *Sporotrichum schencki*, carried out at Ciba Pharmaceutical Products, Inc., New Jersey, indicated that 3-keto-21-(1-piperidyl)-4, 17-pregnadiene monohydrobromide was active against *C. albicans* at 10 mg. per cent. and against the other fungi at 1 mg. per cent. Related compounds were also fairly active [cf. 2, No. 447].

452. Ehrlich (J.), Anderson (Lucia E.), Coffey (G. L.), Hillegas (A. B.), Knudsen (Mildred P.), Koepsell (H. J.), Kohberger (Dorothy L.), & Oyaas (J. E.). **Antibiotic studies of azaserine.**—*Nature, Lond.*, 173, 4393, p. 72, 1953.

In studies at the Research Laboratories of Parke, Davis & Co., Detroit, Michigan, crystalline azaserine obtained from *Streptomyces* (Parke-Davis No. 04926) inhibited the growth *in vitro* of *Candida*, *Endomycopsis*, *Histoplasma*, *Kloeckera*, *Mortierella*, *Mucor*, *Mycoderma*, *Saccharomyces*, *Schizosaccharomyces*, *Sporobolomyces*, *Torulopsis*, and *Zygosaccharomyces* spp. at 250 μgm. per ml. or less.

453. Christison (I. B.) & Conant (N. F.). **Antifungal activity of some aromatic diamidines.**—*J. Lab. clin. Med.*, 42, 4, pp. 638–640, 1953.

The results of *in vitro* fungicide tests carried out at Duke University, Durham, North Carolina, on four aromatic diamidines against a number of pathogenic fungi revealed selective activity as follows: stilbamidine inhibited *Blastomyces dermatitidis* and *Histoplasma capsulatum*; propamidine *Cryptococcus neoformans*, *Paracoccidioides brasiliensis*, *H. capsulatum* and *B. dermatitidis*; pentamidine *C. neoformans*, *P. brasiliensis*, and *H. capsulatum*; and phenamidine *C. neoformans*, *H. capsulatum*, and *B. dermatitidis*. *Candida albicans* was not suppressed by any of the compounds. The addition of serum to the medium did not affect the activity of the chemicals.

454. Fahlberg (W. J.). **A comparison of fungistatic properties of three aromatic diamidines.**—*Proc. Soc. exp. Biol., N.Y.*, 84, 1, pp. 84–87, 1953.

At Baylor University College of Medicine, Houston, Texas, the *in vitro* sensitivity to stilbamidine, propamidine, and pentamidine of seven fungi causing systemic mycoses and four dermatophytes was investigated. Stilbamidine at a concentration of 0·1 mg. per ml. completely inhibited the growth of *Histoplasma capsulatum*, *Sporotrichum schencki*, *Coccidioides immitis*, and *Madurella* sp., and was similarly effective against *Blastomyces dermatitidis* [2, Nos. 484–489] at 0·01 mg.

At 0·1 mg. propamidine was fungistatic to *H. capsulatum*, *B. dermatitidis*, *Microsporum audouini*, *C. immitis*, and *Madurella* sp., while the growth of *S. schencki* and *Trichophyton rubrum* was arrested by 0·01 mg.

Pentamidine exerted an inhibitory effect on *Cryptococcus neoformans*, *B. dermatitidis*, *Coccidioides immitis*, and *M.* sp. at a dosage of 0·1 mg. and on *S. schencki* and *Microsporum audouini* at 0·01 mg.

455. Hinshaw (W. R.) & Rosenwald (A. S.). **Turkey diseases.**—112 pp., 50 figs., 4 diags., 1 graph, University of California, College of Agriculture, 1951.

Section 14 (4 pp., 3 figs.) of this treatise, which is edited by Mary Rubo, deals with the mycoses of turkeys in the United States, comprising aspergillosis (*Aspergillus fumigatus*) [2, Nos. 116, 250], moniliasis caused by *Candida* [*albicans*: 2, No. 117] and (in poults) by *Oidium pullorum*, and favus (*Achorion* [*Trichophyton*] *gallinae*) [1, Nos. 2365, 2374].

456. Blainey (J. D.) & Morris (E. O.). **Actinomycotic pyaemia.**—*Brit. med. J., 1953*, 4842, pp. 913–915, 1953.

A case of generalized pyaemia with miliary pulmonary infiltration caused by *Actinomyces israeli* is reported in a 50-year-old male patient at the Queen Elizabeth Hospital, Birmingham. An unusual feature of the otherwise typical isolate from the pus of abscesses in the gastrocnemius and on the feet, as well as from the sputum, was its free growth in aerobic culture in 10 per cent. carbon dioxide at 37° C. During the illness gross abnormalities of the serum proteins were observed by electrophoresis on paper strips. Six months' therapy with penicillin and sulphonamides resulted in a complete cure.

457. Finch (P. G.). **Actinomyces of forearm.**—*Canad. med. Ass. J.*, 68, 6, pp. 595–596, 1953.

From Kimberley, British Columbia, is reported a case of actinomycosis [*Actinomyces israeli*] of the forearm in an Italian who had noticed a swelling before he left Italy a year previously. The granulomatous lesions were excised and penicillin treatment was instituted with completely successful results. It is suggested that the infection was blood-borne from an unidentified initial focus, since the patient could recall no recent injury to his arm.

458. Giampiccolo (P.). **Actinomicosi cervico-facciale da disodontiasi di un terzo molare inferiore.** [Cervico-facial actinomycosis due to dysodontiasis of a third molar.]—*Riv. ital. Stomat.*, 7, 8, pp. 1020–1024, 3 figs., 195.

A brief account is presented of a case of actinomycosis of the face and neck in a youth aged 17 years from Messina, apparently associated with lesions in the gums caused by difficult emergence of the third lower molar. The [unspecified] fungus was found in pus from the affected region of the gum and from the swelling on the face.

459. Giolitti (G.) & Bertani (M.). **Un metodo per lo studio microscopico degli attinomiceti.** [A method for the microscopic study of actinomycetes.]—*Riv. Biol.*, 44, 3, pp. 393–401, 1952.

This paper has been noticed from the English version [see next entry].

460. Giolitti (G.) & Bertani (M.). **A method for the microscopical study of actinomycetes.**—*J. Bact.*, 65, 3, pp. 281–282, 1953.

A method for the microscopical study of undisturbed cultures of *Streptomyces* spp., which is also applicable to other actinomycetes, is described from the Veterinary School, University of Milan, Italy. Small rectangles of cellophane are sterilized between moist filter paper, transferred to the surface of nutrient agar in Petri dishes, and seeded with the organism to be examined. When the required stage of growth is reached, the cellophane rectangles are removed, and laid on slides smeared with glycerol and albumin, dried at 37° C., and fixed in 4 per cent. trichloro-acetic acid in 80 per cent. alcohol. Delafield's haematoxylin and acetic methyl blue are the most satisfactory stains, as they tint the cellophane only slightly. After staining and drying the edges of the cellophane are coated with nail enamel.

461. Porter (I. A.). **Actinomycosis in Scotland.**—*Brit. med. J.*, *1953*, 4845, pp. 1084–1086, 1 graph, 1953.

A survey of the occurrence of actinomycosis (*Actinomyces israeli*) in Scotland, covering the period form 1936 to 1948, revealed 186 cases with bacteriological or pathological confirmation of the clinical diagnosis. The cervico-facial region was the commonest site of infection, and 145 (78 per cent.) of the patients were males, mostly agricultural workers. Apart from the north-east, where there was no significant difference between the infection rates of residents in the larger towns and those in rural areas, the former group was much less liable to the disease than the latter.

462. Wangensteen (O. H.), Snapper (I.), & Popper (H.). **Clinical pathological conference. Actinomycosis of the lung with extension to the liver.**—*Rev. Gastroenter., N.Y.*, 19, 12, pp. 950–958, 2 figs., 1952.

This report of a discussion on a case of actinomycosis (*Aticnomyces bovis* [*A. israeli*]) in a man aged 38 from Cook County, New York, is concerned with the differential diagnosis of the disease. An initial infection of the lung spread to the liver, probably by haematogenous routes; eventually the whole lung became involved [2, No. 232].

463. Gruber (M. D.). **Actinomycosis of the mandible; report of a case.**—*Oral Surg.*, 6, 2, pp. 292–294, 1953.

From the University Hospital, Sac City, Iowa, is reported the case of a 41-year-old woman suffering from actinomycosis of the mandible, which was shown by culture to be caused by *Actinomyces graminis* [2, No. 213]. All the patient's teeth had been removed three years previously. Treatment with hot mouth washes, penicillin, and finally potassium iodide eventually eradicated the symptoms, which included swelling and copious yellow pus.

464. Savidge (R. S.) & Davies (D. M.). **Generalized actinomycosis with possible cardiac involvement.**—*Brit. med. J.*, *1953*, 4828, p. 136, 1953.

A case of generalized actinomycosis (*Actinomyces bovis* [*A. israeli*]), in which the organism was isolated from fluctuant lesions of the calves and arms and demonstrated microscopically in the faeces, is reported from Manchester Royal Infirmary. Symptoms included varying cardiac bruits, suggesting the endocardium as the focus for pyaemic spread, while the faecal infection

indicated a primary oesophagal lesion which might have spread to the endocardium. The patient was treated with two courses of penicillin, the first being insufficiently prolonged and ending in a relapse; at least three months' therapy with massive doses of the drug appears to be necessary.

465. Scorer (C. G.). **Actinomycosis of the testis.**—*Brit. J. Surg.*, 40, 161, pp. 244–247, 2 figs., 1952.

A case of actinomycosis (*Actinomyces bovis* [*A. israeli*]) of the testis in a 52-year-old patient is reported from the Hillingdon Hospital, Middlesex, the organism being detected in fluid aspirated from the organ. Since large doses of parenteral penicillin proved unavailing, orchidectomy was performed. The case is compared with four others mentioned in the literature, and it is suggested that the blood stream was the route of infection.

466. **Foreign letters. Mexico. Effect of DDS on Nocardia brasiliensis.**—*J. Amer. med. Ass.*, 153, 4, p. 446, 1953.

DDS (p,p-sulfphonyldianiline) is reported to have shown some promise in Mexico against infections caused by *Nocardia brasiliensis*, but is inactive against *N. asteroides*, *N. madurae*, and *N. pelletieri*. Only a slight effect was noted in treated, infected mice as against untreated, but the results of clinical studies were more encouraging. The clinical course of seven patients with mycetoma caused by *N. brasiliensis* averaged four years, use of the drug being continued long after the disappearance of symptoms to eliminate any risk of breeding a resistant strain of the organism. One case of thoraco-pulmonary lesions failed to respond to treatment.

467. González Ochoa (A.), Shiels (J.), & Vázquez (P.). **Acción de la 4,4-diamino-difenil-sulfona frente a Nocardia brasiliensis. (Estudios in vitro, en la infección experimental y en clínica).** [Action of 4,4-diamino-diphenyl-sulphone on *Nocardia brasiliensis*. (Studies *in vitro*, in experimental infection, and in the clinic).]—*Gac. méd. Méx.*, 82, 5, pp. 345–353, 1952. [English summary.]

Of four pathogenic species of *Nocardia* grown in pure culture on 2 per cent. Sabouraud's dextrose agar, *N. brasiliensis* [1, Nos. 105, 255, 256, 659] was the only one to be inhibited by 4, 4-diamino-diphenyl-sulphone at a concentration of 1 in 10,000 [cf. 1, No. 2223]. Six out of eight persons from different parts of Mexico were cured and one improved by its oral administration at a dosage of 200 mg. daily.

468. Guimarães (N.) & Da Silva (M. E.). **Ação da terramicina sôbre cogumelos patogênicos; (resultados 'in vitro').** [Effect of terramycin on pathogenic fungi; (*in vitro* results).]—*Ann. bras. Derm. Sif.*, 26, 4, pp. 203–207, 1951.

At the Institute of Public Health, Salvador, Bahia, Brazil, terramycin [2, No. 215] at a dilution of 1 in 64,000 inhibited the growth of *Nocardia brasiliensis* and *N. asteroides* in pure culture on Sabouraud's liquid medium.

469. Howell (A.). **In vitro susceptibility of Actinomyces to terramycin.**—*Antibiotics*, 3, 4, pp. 378–381, 1953.

An investigation at the National Institute of Dental Research, Bethesda, Maryland, on cultures of five strains of *Actinomyces israeli*, one of *A. bovis*, one of *A. naeslundi* [1, No. 2058], and one of a group III *Actinomyces* showed that all were susceptible in varying degrees to terramycin, which also exerted a certain bactericidal effect. These discrepancies in susceptibility of different strains would account for conflicting reports in the literature on the value of antibiotics in the treatment of actinomycosis, and suggest the need for a high, sustained dosage in clinical practice.

470. McVay (L. V.) & Sprunt (D. H.). **Treatment of actinomycosis with isoniazid.**—*J. Amer. med. Ass.*, 153, 2, pp. 95–98, 2 figs., 1953.

Three cases of infection of the cervico-facial region by *Actinomyces israeli* are reported from Memphis, Tennessee, where all were successfully treated with isoniazid [2, No. 296], *in vitro* tests with which against the three strains of the pathogen were also satisfactory. The necessary dosage of the drug was much higher than in tuberculosis therapy, but no toxic manifestations were seen in any of the patients, one of whom was a child.

471. Dicke (R. J.). **Maggot therapy of actinomycosis.**—*J. econ. Ent.*, 46, 4, pp. 706–707, 1953.

From the Department of Entomology, University of Wisconsin, the author reports the arrest of an advanced mandibular infection due to *Actinomyces bovis* in a six-year-old Guernsey bull by means of inoculation with first instar maggots from a culture of the blow fly, *Phaenicia sericata*, on a medium consisting of equal parts of ground raw liver and beef.

472. Licitis (Rasma). **Air-borne pollen and spores sampled at five New Zealand stations, 1951–52.**—*N.Z. J. Sci. Tech.*, Sect. B, 34, 4, pp. 289–316, 1 fig., 11 graphs, 1953.

During a survey in 1951–2 of air-borne pollen and spores at five stations in New Zealand 10 to 12 [unspecified] species of fungi, of which those belonging to *Ustilago*, *Puccinia*, and *Tilletia* were most abundant, were recorded throughout the year on slides (coated with glycerin jelly and facing the wind). An increase in the number of fungal spores at the time when grass pollen was at a maximum was noticed at all stations, particularly at Christchurch, the counts being highest in November, December, and January.

473. Richards (M.). **The indoor dissemination of dry rot spores.**—*Int. Arch. Allergy*, 4, 5, pp. 360–365, 2 figs., 1953.

Using the gravity slide method, the author investigated the dissemination of *Merulius lacrymans* spores in connexion with a severe outbreak of dry rot in the wall panelling on the ground floor of a four-floored house at Cardiff. From 19th to 21st November, 1951, the average numbers trapped on 4·84 sq. cm. of the surface of glycerin jelly-coated slides in the basement and on the ground, first, and second floors were 315, 98, 110, 58, respectively, the corresponding figures for the period from 8th to 10th December being 177, 32, 25, 16, and from 10th to 12th of the same month 48, 38, 22, and 17, respectively. In the first series of exposures the approximate spore numbers per cu. m. of air are very roughly estimated at 2,100, 650, 730, and 390 for the basement, ground, first, and second floors, respectively.

474. Schaffer (N.), Seidmon (E. E.), & Bruskin (Sybil). **The clinical evaluation of air-borne and house dust fungi in New Jersey.**—*J. Allergy*, 24, 4, pp. 348–354, 2 graphs, 1953.

Under the auspices of the New Jersey Allergy Society the authors conducted a survey of air and house dust at New Brunswick, covering the 21-month period from May, 1950, to January, 1952. The air samples were collected by means of a Wells air centrifuge and those of house dust with a special vacuum-cleaner. Species representing over 50 genera were recovered from the air [cf. next entries] and cultured, the 12 predominant being *Hormodendrum* [*Cladosporium*], *Penicillium*, *Alternaria*, *Epicoccum*, *Pullularia*, *Aspergillus*, *Cylindrocarpon*, *Stemphylium*, *Botrytis*, *Fusarium*, *Helminthosporium*, and *Phoma*. With the exceptions of *Cylindrocarpon*, *Botrytis*, and *Helminthosporium*, the

same species were the most frequent among the 36 identified from house dust, which further yielded *Mucor*, *Rhizopus*, and *Scopulariopsis* in abundance.

Taking all the atmospheric fungi together, the monthly colony totals per cu. ft. of air were low during the winter and began to rise in March, reaching a peak in July and then sinking again until February. The exclusion of the 12 most common species resulted in a levelling-off with the lowest point in May and June. Viable fungi are present throughout the year in house dust and are important in the production of chronic allergy. Of 106 patients treated with specific fungal extracts for the relief of vasomotor rhinitis or asthma, or both, 86 (81·13 per cent.) responded favourably.

The non-culturable fungi, e.g., rusts, smuts, mildews, and mushrooms, recovered in the course of the survey are also of clinical importance in the area.

475. Bruskin (Sybil). **A comprehensive survey of the incidence of fungus spores in New Brunswick, New Jersey, area.**—*Ann. Allergy*, 11, 1, pp. 15–23, 14 graphs, 1953.

Detailed information is presented on the seasonal frequency of the 12 predominant species of fungi collected from the air at New Brunswick, New Jersey, between May, 1950, and January, 1952 [see preceding entry], and the influence of climatic conditions on spore counts is briefly discussed.

476. Collier (T. W.) & Ferguson (Betty (A.). **Airborne fungus spores, Brunswick, Georgia, area. Incidence and variation with climatic changes.**—*Ann. Allergy*, 11, 4, pp. 480–493, 3 graphs, 1953.

During 1952 (exclusive of the period from mid-May to September), nearly 30 moulds were identified from 1,296 colonies isolated from the air on potato dextrose agar plates adjusted to a pH of 3·5 at Brunswick, Georgia [cf. preceding and next entries]. Predominant were species of *Penicillium*, *Alternaria*, *Oospora*, *Aspergillus*, and *Monilia*, of which the two last-named occurred almost exclusively in the spring, *Penicillium* and *Alternaria* were present throughout the year, the former with a maximum in the autumn and the latter in the first few months of the year, while *Aspergillus* showed a single high peak in September. Wind variation at the time of exposure was the most important of the climatic factors studied in relation to the mould count. High winds produced a sudden abundant influx of two unidentified types of mould. On the other hand, rainfall appears to clear the atmosphere.

477. Kessler (A.). **Survey of airborne pollen and fungus spots in Israel, 1951–1952.**—*Ann. Allergy*, 11, 3, p. 322–328, 6 graphs, 1953.

During 1951 and 1952 the most prevalent species of the moulds trapped on petrol-covered slides in the centre of Tel Aviv-Jaffa, on the coastal plain of Israel [cf. preceding entries] were species of *Alternaria*, '*Macrosporium*', and *Helminthosporium*. In both years the curves for *Alternaria* and '*Macrosporium*' culminated in May, while *Helminthosporium* was distributed uniformly throughout the year. The total counts for the three genera, in the order given, were 156, 116, and 59 in 1951 and 401, 104, and 73 in 1952. Species of *Cladosporium-Hormodendrum* and *Fusarium* were also encountered on the slides, the former often and the latter rarely. All the species mentioned are prevalent in a group of 2,000 patients who are undergoing intracutaneous and cutaneous tests with various fungal allergens, and have also frequently been found in dark patches on walls in the humid winter months, as well as on vegetables and other foodstuffs.

478. Hinson (K. F. W.), Moon (A. J.), & Plummer (N. S.). **Bronchopulmonary aspergillosis; a review and a report of eight new cases.**—*Thorax, Lond.*, 7, 4, pp. 317–333, 28 figs., 1952.

A description of the mycology of aspergillosis (*Aspergillus fumigatus*, *A. niger*, *A. clavatus*, and *A. versicolor*) includes methods of distinguishing the causal fungi and details of the appearance of *A. fumigatus* in sputum and tissue sections. A silver impregnation method permits clear differentiation of the mycelium in microscopic preparations. Eight cases of broncho-pulmonary aspergillosis are described from Great Britain, all attributed to *A. fumigatus* where a final identification was feasible. Three of these cases were of a previously unrecognized type, involving recurrent pyrexial attacks accompanied by collapse and consolidation of different parts of the lungs and by purulent sputum containing characteristic 'plugs' and *A. fumigatus*. This variation in the disease is thought to be caused by sensitization of the host to the fungus. The classification of broncho-pulmonary aspergillosis under three types, viz., saprophytic, allergic, and septicaemic or pyaemic, is proposed.

479. Kastrup (H.). **Aspergillose der Lunge.** [Aspergillosis of the lung.]—*Ther. d. Gegenw.*, 91, 11, p. 425, 2 figs., 1952.

The histological examination of the tissues surrounding a walnut-sized tumour in the upper lobe of the right lung of a 13-year-old girl at the Hamburg-Eppendorf Hospital, Germany, revealed massive agglomerations of a species of *Aspergillus*. A complete cure was effected by resection.

480. Triglianos (A.). **Les mycoses bronchopulmonaires; à propos d'un cas d'aspergillose bronchique isolée.** [Broncho-pulmonary mycoses; in connexion with a case of isolated bronchial aspergillosis.]—*Ann. Oto-laryng.*, 69, 7, pp. 440–447, 6 figs., 1952.

An undetermined species of *Aspergillus* was isolated from bronchial sections of a 31-year-old male patient at the Hôpital Laënnec, Paris, who had been suffering for eight years from intermittent haemoptysis. The small ulceration responsible for the trouble was strictly localized in the bronchus and a cure was rapidly effected by the administration of penicillin (10,000,000 units in nine days) plus 10 gm. didromycin.

481. Indoh (H.). **Aspergillus fumigatus isolated from a corpse of a Whooper Swan in Japan.**—*Nagaoa* (*Mycol. J. Nagao Inst.*), *1953*, 3, p. 25, 1953.

Aspergillus fumigatus was isolated from a whooper swan (*Cygnus cygnus*) sent from Sapporo (Hokkaido). Foci of infection were found on the pleura and peritoneum of the bird.

482. Baylin (C. J.) & Wear (J. M.). **Blastomycosis and actinomycosis of the spine.**—*Amer. J. Roentgenol.*, 69, 3, pp. 395–398, 4 figs., 1953.

In this discussion from Duke University, Durham, North Carolina, it is stated that blastomycosis [? *Blastomyces dermatitidis*] of the spine closely simulates spinal tuberculosis, the infection spreading from segment to segment in both cases. Blastomycosis invariably produces abnormalities, usually marked narrowing, in the disk spaces, bone destruction being prominent, with little proliferative reaction for a long time: an abscess is nearly always present. Diagnosis must be established by isolation of the causative agent or immunological methods, and iodide therapy after proper desensitization is the best treatment.

Actinomycosis (*Actinomyces bovis* [*A. israeli*]) of the spine may be primary, showing a peculiar and typical 'soap bubble' appearance in X-ray photographs of the vertebrae, or secondary, as a consequence of an intra-abdominal infec-

tion. In this case the changes produced are a distinctive sclerosis of the vertebrae and dense eburnizing bone changes extending into the body of the vertebrae. Sulphur granules can often be demonstrated in drainage fluids, but the mere presence of the organism does not necessarily indicate that it is the cause of disease.

483. Delamater (E. D.). **Additional observations on the chromosomal structure of the vegetative nucleus of Blastomyces dermatitidis.**—*Mycologia*, 45, 3, pp. 458–460, 11 figs., 1953.

Additional observations are presented on the nature and number of the chromosomes in the multinucleate cells of *Blastomyces dermatitidis* [1, No. 1106].

484. Cummins (C. R.), Bairstow (B.), & Baker (L. A.). **Stilbamidine in treatment of disseminated blastomycosis.**—*Arch. intern. Med.*, 92, 1, pp. 98–107, 5 figs., 1953.

Two patients at the Veterans' Administration Hospital, Hines, Illinois, suffering from disseminated blastomycosis (*Blastomyces dermatitidis*) were apparently cured of the disease by stilbamidine therapy [see next entries], though a longer follow-up period is needed to make sure there is no relapse. There were mild, transitory symptoms of fifth-nerve involvement due to use of the drug.

485. Rattner (H.), Rodin (H.), & Bielinski (S.). **Blastomycosis.**—*Arch. Derm. Syph., Chicago*, 68, 2, pp. 221–222, 1953.

From Chicago a case of misdiagnosed blastomycosis (*Blastomyces* [? *dermatitidis*] is reported to illustrate the importance of careful examination of biopsy specimens before embarking on radical surgery. In the belief that the patient was suffering from cancer part of the foot was amputated: after the diagnosis had been corrected stilbamidine therapy [see preceding entry] was instituted.

486. Marshak (L. C.). **Cutaneous blastomycosis treated with 4,4′-stilbenedicarboxyamidine (stilbamidine).**—*Arch. Derm. Syph., Chicago*, 68, 1, pp. 94–95, 1953.

A 64-year-old male patient at Aurora, Illinois, suffering from blastomycosis (*Blastomyces* [? *dermatitidis*]) of the face was apparently cured by two courses of intravenous stilbamidine [cf. preceding and next entries]. Cultures made after the second course were uniformly negative.

487. Rodriquez (J.). **Stilbamidine (4,4′-stilbene-dicarboxyamidine) therapy in blastomycosis.**—*Arch. Derm. Syph., Chicago*, 68, 1, pp. 95–96, 1953.

The toxicity of stilbamidine [2, Nos. 51, 258, cf. preceding and next entries] is discussed in relation to its use in cases of blastomycosis (*Blastomyces dermatitidis*), with particular reference to a 62-year-old male patient from Chicago who noticed numbness of the lips after two courses of stilbamidine therapy.

488. Forsey (R. R.) & Jackson (R.). **Toxic psychosis following use of stilbamidine in blastomycosis.**—*Arch. Derm. Syph., Chicago*, 68, 1, pp. 89–90, 1953.

A case of cutaneous blastomycosis (*Blastomyces dermatitidis*) in a 40-year-old woman is described from the Montreal General Hospital, Canada. The disease responded favourably to massive doses of stilbamidine, but severe mental disturbance ensued and the patient eventually succumbed [cf. preceding and next entries].

489. Stillians (A. W.) & Klemptner (H. E.). **Blastomycosis in tuberculous patient.**—*J. Amer. med. Ass.*, 153, 6, pp. 560–561, 4 figs., 1953.

A case of blastomycosis [? *Blastomyces dermatitidis*] complicating pulmonary tuberculosis in a 31-year-old man is reported from the Municipal Tuberculosis Sanitorium, Chicago. Lesions first appeared on the nose and later on the scalp, knee, wrist, and arm, and diagnosis was made microscopically on biopsy specimens. Copper sulphate, sulphadiazine and sulphapyridine, penicillin, and ethyl vanillate were ineffectual, but iodine therapy kept the infection in check. Since the lesions developed afresh whenever iodine administration was stopped, stilbamidine therapy [see preceding entries] was tried and proved immediately effective; there had been no recurrence of blastomycosis 13 months after the treatment was concluded, while the only undesirable side-effect was a mild, temporary paraesthesia.

490. Layton (J. M.), McKee (A. P.), & Stamler (F. W.). **Dual infection with Blastomyces dermatitidis and Histoplasma capsulatum. Report of a fatal case in Man.**—*Amer. J. clin. Path.*, 23, 9, pp. 904–913, 11 figs., 1953.

From the State University of Iowa College of Medicine, Iowa City, the authors describe a fatal case of mixed infection by *Blastomyces dermatitidis* and *Histoplasma capsulatum*, proved by tissue culture, in a 46-year-old male. The histopathological reaction closely simulated that reported in other cases attributed to small forms of the former species [cf. next entry and below, No. 543].

491. Weed (L. A.). **Large and small forms of Blastomyces and Histoplasma.**—*Amer. J. clin. Path.*, 23, 9, pp. 921–923, 1953.

This is an editorial review of recent discoveries in connexion with the large and small forms of *Blastomyces dermatitidis* and *Histoplasma capsulatum* [see preceding entry] and of the diagnostic implications arising therefrom.

492. Tuttle (J. G.), Lightwardt (H. E.), & Altshuler (C. H.). **Systemic North American blastomycosis. Report of a case with small forms of blastomycetes.**—*Amer. J. clin. Path.*, 23, 9, pp. 890–897, 9 figs., 1953.

From Wayne County General Hospital, Eloise, Michigan, the authors report a case of systemic blastomycosis (*Blastomyces dermatitidis*) in a 61-year-old male patient, characterized by the occurrence in the tissue of small forms of the organism, measuring 3 to 10 μ within and 5 to 15 μ outside the giant cells [cf. 1, No. 1354 and preceding entries]. The results of cultural and immunological studies indicated that the infection was pure. An intramedullary blastomycotic lesion was detected on the spinal cord, apparently for the first time.

493. Magni (G. E.). **Analisi della ploidia in alcuni generi di beviti asporigeni.** [Analysis of ploidy in some genera of asporogenous yeasts.]—*Atti Ist. bot. Pavia*, Ser. 5, 10, pp. 89–97, 4 graphs, [1953].

A study of the X-ray survival curves of 19 strains of asporogenous yeasts showed that all except *Torulopsis pulcherrima* and *T.* [*Cryptococcus*] *neoformans* had a haploid set. The author concludes that these two species are not asporogenous yeasts, which he defines as permanently haploid yeast-like fungi incapable of sporulation.

494. Symmers (W. St. C.). **Torulosis. A case mimicking Hodgkin's disease and rodent ulcer and a presumed case of pulmonary torulosis with acute dissemination.**—*Lancet*, 265, 6795, pp. 1068–1074, 9 figs., 1953.

Two cases of cryptococcosis (*Cryptococcus neoformans*) are fully reported, one in a 29-year-old male at the Queen Elizabeth Hospital, Birmingham, and

the other in a 26-year-old female at the Hill Top Hospital, Bromsgrove. The former patient's symptoms were attributed to Hodgkin's disease and pulmonary tuberculosis until the fungus was detected in lesions simulating rodent ulcers. It was also found on histological re-examination of lymph nodes excised on the first appearance of lymphadenopathy three years earlier. Death was caused by haemorrhage in an atypical cryptococcal granuloma of the brain.

The abscess-like pulmonary lesions in the second case, which was also fatal, proved to be large, caseous granulomata containing cryptococci. True suppurative lesions, filled with the organisms and resulting from acute terminal dissemination of the infection, were present in the spleen, lymph nodes, and liver; they have not been previously described as a feature of the disease.

495. Schepel (J. A. C.) & Cars Tens (F. W.). **Een geval van torulosis met localisatie in de longen.** [A case of torulosis localized in the lungs.]—*Ned. Tijdschr. Geneesk.*, 97, 42, pp. 2723–2726, 3 figs., 1953. [English summary.]

The usual site of infection by *Cryptococcus neoformans* is the meninges, but other organs are occasionally involved. From a Dutch sanatorium the authors report a case of pulmonary invasion in a 39-year-old gardener which was successfully treated by surgical intervention.

496. Linell (F.), Magnusson (B.), & Nordén (A.). **Cryptococcosis ; review and report of a case.**—*Acta derm.-venereol., Stockh.*, 33, 1–2, pp. 103–122, 19 figs., 1953. [German, French, and Spanish summaries.]

The first case of cryptococcosis (*Cryptococcus neoformans*) observed in Sweden, in a 57-year-old joiner, is reported from the Malmö General Hospital. Four years after the development of pulmonary trouble of unknown origin, cutaneous lesions appeared suddenly, mostly on the face, and expanded rapidly. The fungus was isolated from biopsy specimens of the facial lesions, gastric washings, and cerebrospinal fluid, and proved to be pathogenic to mice. Sulphonamides and terramycin produced no demonstrable effect and the patient died nine months after the onset of the cutaneous phase. The autopsy disclosed involvement of the lymph nodes, kidneys, brain, cerebral vessels, and especially of the lungs, cultures from all of which, as well as from the spleen and liver, were positive for the fungus.

On the basis of this case a general survey is given of the clinical aspects, pathology, and diagnosis of cryptococcosis. Methylene blue proved effective in the demonstration of the fungus in tissue specimens and revealed active haematogenous spread at the time of death.

497. Lauze (S.). **Infection à torula chez un individu traité aux antibiotiques et à la cortisone.** [Infection by torula in a patient treated with antibiotics and with cortisone.]—*Union méd. Canada*, 81, 8, pp. 935–940, 5 figs., 1952.

A 26-year-old woman who had been treated with large doses of antibiotics and cortisone at the Hospital of Notre Dame was found at autopsy to have been suffering from torulosis (*Cryptococcus neoformans*). The diagnosis was made on microscopic examination of the tissues, the organism being distinguished from the agent of North American blastomycosis [*Blastomyces dermatitidis*] by the greater thickness of the capsule. The disease was generalized but the principal locus of infection was in one lung. The question arises whether the antibiotic therapy practised in this case allowed a saprophytic infection by *C. neoformans* to become parasitic.

498. **Cryptococcus meningitis.**—*Amer. Practit.*, 4, 1, pp. 60–62, 1 fig., 1953.

A case of cryptococcal meningitis (*Cryptococcus neoformans*) in a man aged 32 years in which the original diagnosis was Hodgkin's disease is reported from Massachusetts. The correct diagnosis was based on the detection of yeast cells in the spinal fluid. It is thought probable that a previous pulmonary infection was due to the same organism and that a course of antibiotics given at the time exacerbated the disease.

499. Hall (B. D.) & Mardis (R. E.). **Treatment of cryptococcosis with terramycin.** —*U.S. Forces med. J.*, 4, 7, pp. 1061–1066, 2 figs., 1953.

The clinical course and laboratory findings in a 25-year-old American soldier suffering from cryptococcosis (*Cryptococcus neoformans*) at the Tokyo General Hospital, Japan, were strongly suggestive of tuberculosis, but the correct diagnosis was established 18 days before death by the demonstration of the fungus in the spinal fluid. The onset of the disease 11 months previously had been manifested exclusively by exudative and fibrotic pleural reactions. Extensive therapy with terramycin as an adjunct to conventional methods failed to arrest the progress of infection [cf. 2, No. 495]. The autopsy revealed a diffuse leptomeningitis of the brain and spinal cord, pulmonary parenchymal and pleural inflammatory lesions, fibrous adhesions of the liver, an extrahepatic abscess, and a focus of necrotizing chronic inflammation in the adrenal medulla.

500. Holzworth (Jean) & Coffin (D. L.). **Cryptococcosis in the Cat : a second case.**—*Cornell Vet.*, 43, 4, pp. 546–550, 2 figs., 1953.

A second case of cryptococcosis (*Cryptococcus neoformans*) in a cat is reported from the Angell Memorial Hospital, Boston, Massachusetts [2, No. 47].

501. Artageveytia Allende (R. C.). **Contribución al conocimento de Torulopsis glabrata (Anderson 1917) Lodder y de Vries 1938.** [Contribution to the knowledge of *Torulopsis glabrata* (Anderson 1917) Lodder & de Vries 1938.]—*Rev. Fac. Med. Montevideo*, 37, 9–12, pp. 467–469, 1952. [English summary.]

No morphological or biological differences were detected in a study at the Institute of Hygiene, Montevideo, Uruguay, between five strains of *Cryptococcus glabratus* [1, No. 1639 and next entry], three of which were of local provenance while two were supplied by Rhoda W. Benham from the United States.

502. Lopez Fernandes (J. R.). **Acción patogena experimental de la levadura Torulopsis glabrata (Anderson 1917) Lodder y de Vries, 1938 productora de lesiones histopatológicos semejantes a las de la histoplasmosis.** [Experimental pathogenic action of the yeast *Torulopsis glabrata* (Anderson 1917) Lodder and de Vries, 1938, agent of histopathological lesions simulating those of histoplasmosis.]—*Ann. Fac. Med. Montevideo*, 37, 9–12, pp. 470–483, 12 figs., 1953. [English summary.]

Of the laboratory animals used in inoculation experiments with the five strains of *Torulopsis glabrata* [*Cryptococcus glabratus*] mentioned in the preceding entry, white mice proved to be the most suitable for histopathological studies. Intravenous and intraperitoneal injections gave the best and most consistent results. Local and systemic lesions developed, especially in the heart, liver, and kidneys. The most characteristic feature was the nodular lesions and infiltrates, accompanied by an intense reaction of the reticuloendothelial system. The yeasts are localized within the macrophagic cells and the histopathological aspect presents analogies with that of histoplasmosis

(*Histoplasma capsulatum*). It follows, therefore, that a diagnosis of the latter disease should not be founded exclusively on the observation of yeast-like elements within the macrophagic cells of the reticulo-endothelial system [1, No. 2270; 2, No. 91, *et passim*].

503. Azulay (R. D.). **Amigdalitis paracoccidioidica.** [Paracoccidioidal tonsillitis.] —*Arch. argent. Derm.*, 3, 1, pp. 1–5, 1 fig., 1953. [Portuguese and English summaries.]

From Rio de Janeiro, Brazil, the author describes a case of tonsillitis in a 48-year-old male negro caused by *Paracoccidioides brasiliensis*. The ulcerated, mulberry-like growth on the right tonsil disappeared rapidly under the influence of sulphadiazine therapy.

504. Azulay (R. D.). **Dois casos de micose de Lutz (blastomicose brasileira) submetidos a traquetomia.** [Two cases of Lutz's mycosis (Brazilian blastomycosis) treated by tracheotomy.]—*Hospital, Rio de J.*, 42, 6, pp. 923–929, 1952. [English summary.]

Two cases of South American blastomycosis (*Paracoccidioides brasiliensis*) in males aged 54 and 32 are reported from Rio de Janeiro, Brazil, both involving the respiratory system. Tracheotomy was performed in both cases, being necessitated in the former by the obstructive lesions due to the fungus, and in the latter by an extensive cicatrization resulting from sulpha therapy.

505. Sampaio (S. A. P.) & Alayon (F.). **Caso atipico de blastomicose sul-americana.** [An atypical case of South American blastomycosis.]—*An. bras. Derm. Sif.*, 26, 2, pp. 99–100, 1951.

Ulcero-vegetative lesions on the soles of the feet of a 58-year-old farmer resident in the State of São Paulo, Brazil, were found to be caused by the agent of South American blastomycosis [*Paracoccidioides brasiliensis*].

506. Barwasser (N. C.). **Chromoblastomycosis. Thirteenth reported case in the United States.**—*J. Amer. med. Ass.*, 153, 6, p. 556, 1 fig., 1953.

The 13th reported case of chromoblastomycosis in the United States, contracted either in Missouri or Illinois, is described. The disease appeared as raised plaques on the back of the wrist at the site of an old burn, and the patient had also been in contact with timber [cf. 2, Nos. 57, 286]. Microscopic examination of the lesion revealed giant cells, often containing groups of dark brown cells, on which the diagnosis was based. Electro-coagulation apparently destroyed the lesions. Since diagnosis is nearly always established by microscopical examination, biopsy should be performed on all chronic granulomata.

507. Tropeano (A.). **Enfermedad de Posadas (coccidioidomicosis).** [Posadas' disease (coccidioidomycosis).]—*Prensa méd. argent.*, 39, 47, pp. 2889–2899, 10 figs., 1952.

This is a survey, based on 34 contributions to the relevant literature, of the available information on the etiology, morphology, biology, life-cycle, symptomatology, and diagnosis of *Coccidioides immitis*.

508. Friedman (Lorraine), Pappagianis (D.), Berman (R. J.), & Smith (C. E.). **Studies on Coccidioides immitis: morphology and sporulation capacity of forty-seven strains.**—*J. Lab. clin. Med.*, 42, 3, pp. 438–444, 7 figs., 1953.

A comparative study at the Naval Biological Laboratory, Naval Supply Center, Oakland, California, on 47 strains of *Coccidioides immitis* (44 of human origin, two from soil, and one from a dog) revealed striking cultural and morphological variations [1, No. 291]. Ten strains failed to sporulate on Sabouraud's dextrose agar, while three produced no spores either on this medium or

on 1 per cent. glucose agar enriched with 0·5 per cent. yeast extract. All the strains were lethal to mice and each produced the identical type of spherules.

509. Martin (M.). **La coccidioidomycose existe-t-elle au Congo Belge?** [Does coccidioidomycosis exist in the Belgian Congo?]—*Ann. Soc. belge Méd. trop.*, 33, 3, pp. 237–240, 1953. [Flemish summary.]

Of 1,702 persons tested in 1952 for sensitivity to coccidioidin at Léopoldville, Belgian Congo, 58 (3·4 per cent.) reacted positively (55 adult males, two boys aged 13 and 14, and one woman).

510. Camphyn (R.). **Résultats d'un test à la coccidioidine. La coccidioidomycose existe-t-elle au Congo?** [Results of a coccidioidin test. Does coccidioidomycosis exist in the Congo?]—*Ann. Soc. belge Méd. trop.*, 32, 4, pp. 341–345, 1953. [Flemish summary.]

Some 3 per cent. of the adult natives in the Kasai region of the Belgian Congo reacted positively to coccidioidin tests in 1952 and 1953. From these results it is concluded that coccidioidomycosis (*Coccidioides immitis*) is probably, but not certainly, present in the area.

511. Wilson (J. W.). **Coccidioidomycosis as a tool in the study of granulomatous disease.**—*Calif. Med.*, 78, pp. 257–262, 1953.

The possibilities of applying the knowledge gained in California on the immunological aspects of coccidioidomycosis (*Coccidioides immitis*) to the study of tuberculosis and other granulomatous diseases are discussed under the headings of allergic manifestations in the skin, wide range of tissue response, and fields for investigation.

512. Larson (R.) & Scherb (R. E.). **Coccidioidal pericarditis.**—*Circulation*, 7, 2, pp. 211–217, 6 figs., 1953.

In an area where coccidiodomycosis (*Coccidioides immitis*) is endemic, pericarditis of obscure etiology is considered to warrant a careful search for the disease. Three cases of coccidioidal pericarditis, one fatal, are described from California. The disease is distinguishable from pericarditis complicating pulmonary tuberculosis by negative tuberculosis skin and sputum tests, positive coccidioidal serology, and the presence of *C. immitis* in sputum or lung tissue. It further differs from myocardial infarction in the revelation of pneumonitis by X-ray examination, together with a positive coccidioidin skin test.

513. Wilson (J. W.), Smith (C. E.), & Plunkett (O. A.). **Primary cutaneous coccidioidomycosis. The criteria for diagnosis and report of a case.**—*Calif. Med.*, 79, 3, pp. 233–239, 1 fig., 1 graph, 1953.

A case of primary cutaneous coccidioidomycosis (*Coccidioides immitis*) in a 32-year-old embalmer is reported from California. Infection was contracted through handling the body of a person who had died from the disseminated form of the disease, the portal of entry being an abrasion in the right middle finger. From a five-year study of this case and a correlation of the information thereby acquired with that already presented in 33 contributions to the relevant literature, it is concluded that primary cutaneous infection is very rare, the lesions commonly attributed to this source mostly resulting from dissemination of the organisms to the skin from a previously unrecognized pulmonary focus.

Based on these observations, nine criteria are laid down for the skin as a channel of ingress and six for cutaneous lesions arising through dissemination from the lungs.

514. Cohen (R.) & Gifford (M. A.). **A proven case of cured disseminated coccidioidomycosis.**—*Arch. Pediat.*, 70, 3, pp. 81–88, 1953.

From the Kern General Hospital, Bakersfield, California, is reported the case of a four-year-old Mexican boy who was found at the age of one year to be suffering from generalized coccidioidomycosis (*Coccidioides immitis*) [cf. 2, No. 294]. He was treated with intramuscular and oral actidione (total of 5 gm.) for one year with apparently successful results, but two years later was readmitted to the hospital in a terminal condition and eventually died of a generalized neoplastic disease, no trace of *C. immitis* being detected by microscopic or cultural examination. Actidione is known to be highly toxic and this case raises the possibility that it may be carcinogenic.

515. Newcomer (V. D.), Wright (E. T.), Tarbet (J. E.), Winer (L. H.), & Sternberg (T. H.). **The effects of cortisone on experimental coccidioidomycosis.**—*J. invest. Derm.*, 20, 4, pp. 315–327, 1953.

At the General Medical and Surgical Hospital and the University of California, Los Angeles, it was found that cortisone in dilutions of 1 in 2,500 to 1 in 20,000 produced no visible influence on the growth of *Coccidioides immitis in vitro* and exerted a minimal adverse effect on the longevity of mice infected with the fungus in doses approximating to those given to man, though in the initial stages larger granulomata with a more oedematous central necrotic component were apparent than in untreated mice. The drug appeared to induce earlier maturation of *C. immitis* in infected mice.

516. Bocobo (F. C.), Curtis (A. C.), & Harrell (E. R.). **In vitro fungistatic activity of stilbamidine, propamidine, pentamidine and diethylstilbestrol.**—*J. invest. Derm.*, 21, 3, pp. 149–156, 1953.

Stilbamidine, propamidine, pentamidine, diethylstilboestrol [1, No. 1801], methyltestosterone, and isonicotinic acid anhydride were tested for their fungistatic action *in vitro* against 22 species of superficial and systemic pathogenic fungi at Ann Arbor, Michigan. Diethylstilboestrol was the most active, particularly against *Coccidioides immitis*, while isonicotinic acid hydrazide showed no demonstrable fungistasis.

517. Israel (H.). **The changing pattern of pulmonary disease.**—*Postgrad. Med.*, 13, 2, pp. 92–100, 1953.

In this review of trends in pulmonary disease the history of the epidemiological investigations into histoplasmosis (*Histoplasma capsulatum*) and coccidioidomycosis (*Coccidioides immitis*), which led to the discovery of widespread, benign forms of the illnesses, is outlined and discussed.

518. Halde (C.) & Reyes (A. C.). **Histoplasmin and coccidioidin testing in a Philippine tuberculosis hospital.**—*Amer. J. trop. Med. Hyg.*, 2, 4, pp. 655–657, 1953.

Of 824 tuberculous patients (457 males and 367 females aged between one and 70 years) at Quezon Institute, near Manila, Philippine Islands, tested with histoplasmin and coccidioidin, 26 (3·15 per cent.) reacted positively to the former but none to the latter antigen. The positive histoplasmin reactors comprised 16 men and 10 women aged from 16 to 63.

519. Locket (S.), Atkinson (E. A.), & Grieve (W. S. M.). **Histoplasmosis in Great Britain. Description of a second case of disseminated histoplasmosis; treatment by ethyl vanillate.**—*Brit. med. J., 1953*, 4841, pp. 857–860, 5 figs., 1953.

Following a brief survey of the literature on histoplasmosis (*Histoplasma capsulatum*) in Great Britain [1, Nos. 2268–2269 and next entry], the authors

report from Oldchurch Hospital, Romford, Essex (where technical assistance was given by E. Bridson), the second case of the disseminated form of the disease observed in the country. The patient was a 32-year-old male who had served in H.M. Forces for six years, mostly at Alexandria and Port Said, with short periods at Durban, Tobruk, and Bombay, prior to his discharge in 1945. The illness proved fatal despite the daily administration of 45 to 50 gm. ethyl vanillate.

A note is included on the cultural characters of the causal organism, which presented certain peculiarities. It failed to develop on Sabouraud's agar, but on 1 per cent. glucose agar at room temperature, with a pH approaching neutrality, a profuse growth of fluffy, white colonies appeared in a week, followed a few days later by tuberculate chlamydospores, 14 to 16 μ in diameter. Smooth, pyriform elements, 4 to 5 μ in diameter, also developed. On sealed blood agar slants at 37° C. the mycelial growth gave rise after a fortnight to smooth, creamy colonies of yeast cells, which measured 2 to 3 μ in diameter and were of variable shape, about half being oval with pointed ends. The yeast form did not ferment glucose, maltose, saccharose, or dextrose after 14 days' incubation at 37°.

520. Sakula (A.). **A case of pulmonary histoplasmosis.**—*Tubercle, Lond.*, 34, 1, pp. 18–20, 1 fig., 1953.

The fourth case of histoplasmosis (*Histoplasma capsulatum*) to be recorded in Great Britain [see preceding entry] is described. The patient was an American woman resident in England, who had lived in areas of the United States where histoplasmosis is endemic. Both tuberculin and histoplasmin skin tests were positive, but *H. capsulatum* could not be isolated from the sputum. Chest radiographs showed the small, round, calcified nodules typical of the disease.

521. Braccini (L.). **Sulla incidenza dell'istoplasmosi in alcune Provincie della Toscana.** [On the incidence of histoplasmosis in some districts of Tuscany.]—*Riv. ital. Igiene*, 12, 11–12, pp. 429–432, 1952. [English summary.]

Only one of 928 inhabitants of the Leghorn, Lucca, and Pisa districts of Tuscany, Italy, reacted positively to intradermal histoplasmin tests in 1952, a male adult suffering from tuberculosis.

522. Clarke (G. H. V.), Walker (Jacqueline), & Winston (R. M.). **African histoplasmosis.**—*J. trop. Med.* (*Hyg.*), 56, 12, pp. 277–280, 7 figs., 1953.

A case of African histoplasmosis (*Histoplasma duboisii*) [1, No. 1158; 2, No. 334] in a 17-year-old male native of Nigeria is described. It was noteworthy for the widespread distribution of the cutaneous lesions, which failed to respond to any of the therapeutic measures tested.

523. Stott (H. M.). **Histoplasmin sensitivity and pulmonary calcification in Kenya.**—*Brit. med. J., 1954*, 4852, pp. 22–25, 1954.

Intradermal tests performed on 768 adult African males revealed an overall sensitivity rate of 65 (8·5 per cent.) to 1 in 100 histoplasmin. Of 130 X-ray films examined, 16 (12·3 per cent.) were deemed to show calcification. The diagnosis of histoplasmosis (*Histoplasma capsulatum*) should be considered in cases where a negative tuberculin test is associated with persistent pulmonary infection.

524. Bueno De Mesquita (S. J.) & Collier (W. A.). **The histoplasmin reaction in leprosy patients.**—*Int. J. Leprosy*, 21, 2, pp. 179–186, 1953. [Spanish summary.]

Histoplasmin tests on 675 lepers in three sanatoria in Surinam evoked positive reactions in 160 (23·7 per cent.) as compared with 423 (45·4 per cent.) out of 932 non-lepers [cf. 2, No. 323]. Among the lepers the positive rates for adult males and females were virtually identical, whereas in the non-leprous group the incidence was materially higher in males.

525. Winckel (W. E. F.), Collier (W. A.), & Hilliers (A. A.). **Histoplasma findings in menstrual disturbances.**—*Docum. Med. geogr. trop.*, 5, 3, pp. 215–219, 2 figs., 1953.

The examination at the Government Hospital, Paramaribo, Surinam, of 31 curettements from 30 women with an irregular menstrual cycle revealed in 22 (71 per cent.) the presence of inclusion bodies which were identified with *Histoplasma* [*capsulatum*: 2, Nos. 323–326] on the basis of histopathological examination, animal tests, or both.

526. Randall (C. C.) & Turner (Dorothy J.). **Cultivation of yeast in Earle's 'L' strain mouse cells in vitro.**—*Proc. Soc. exp. Biol., N.Y.*, 83, 3, pp. 584–585, 1 fig., 1953.

At the Vanderbilt University School of Medicine, Nashville, Tennessee, *Histoplasma capsulatum* developed intracellularly in cultures of Earle's 'L' strain mouse cells on a medium composed of 40 per cent. horse serum, 20 per cent. chick embryo extract, and 40 per cent. Earle's balanced salt solution [cf. 1, No. 2138]. The inoculated cells could be subcultured.

527. Randall (C. C.) & Hackney (Alice L.). **Observations on human tissue cultures naturally infected by Histoplasma capsulatum.**—*Amer. J. Path.* 29, 5, pp. 861–869, 5 figs., 1953.

Studies are reported from the Vanderbilt University School of Medicine, Nashville, Tennessee, on the application of tissue culture methods to known and suspected cases of naturally occurring histoplasmosis (*Histoplasma capsulatum*) [1, No. 2286]. Fungus and host cells proliferated together in plasma clot cultures on a medium consisting of 40 per cent. horse serum, 57 per cent. Earle's salt solution, and 3 per cent. chick embryo extract [2, No. 526], the most conspicuous feature being the great increase in intracellular yeast cells in the fibroblast-like cells growing on glass. Intracellular yeast cells were also demonstrated by the very simple Maitland (flask) method, using 40 per cent. sterile filtered horse serum and 60 per cent. Earle's salt solution. Some evidence was obtained of the spread of the yeast cells from one tissue cell to another by means of cell division.

528. Zinneman (H. H.) & Hall (W. H.). **Chronic pharyngeal and laryngeal histoplasmosis successfully treated with ethyl vanillate.**—*Minn. Med.*, 36, 3, pp. 249–252, 1953.

A 42-year-old male patient at the Veterans Administration Hospital, Minneapolis, Minnesota, suffering from chronic pharyngeal and laryngeal histoplasmosis (*Histoplasma capsulatum*), diagnosed by microscopic observation, was successfully treated with ethyl vanillate [2, Nos. 314–316] with no untoward incidents due to the toxicity of the compound. The patient apparently contracted the disease in Minnesota, where there have previously been 18 probable cases among humans and one in a dog [2, No. 333]. A short review of the diagnosis and treatment of the disease is given.

529. Olivares (O.), Ahumada (J.), Vaccaro (H.), Paredes (L.), & Pozo (S.). **Histoplasmosis generalizada ; primer caso autóctono en Chile, aspectos clínico e immuno-bacteriológico.** [Generalized histoplasmosis; first autochthonous case, clinical and immuno-bacteriological aspects.]—*Rev. méd. Chile*, 80, 12, pp. 746–757, 3 figs., 1 graph, 1952.

This account of the first indigenous case of histoplasmosis (*Histoplasma capsulatum*) in Chile, occurring in a 43-year-old male resident of Santiago (a painter), who succumbed to generalized infection, is preceded by observations on the distribution, etiology, epidemiology, clinical aspects, therapy, and diagnosis of the disease and followed by a bibliography of 128 titles. The patient had never been abroad.

530. Haley (L. D.). **'Saprophytic form' of Histoplasma capsulatum in vivo.**—*Yale J. Biol. Med.*, 24, 5, pp. 381–383, 4 figs., 1952.

The examination of tissues of mice inoculated with *Histoplasma capsulatum* at Yale University revealed one case in which the liver contained a large, necrotic area filled with hyphae and tuberculated chlamydospores of the fungus. In the absence of detailed records, no explanation of the phenomenon can be given.

531. Furcolow (M. L.) & Grayston (J. T.). **Occurrence of histoplasmosis in epidemics. Etiologic studies.**—*Amer. Rev. Tuberc.*, 68, 3, pp. 307–320, 8 figs., 1 map, 1953.

This is a review of 25 contributions to the literature on the epidemic occurrence of histoplasmosis (*Histoplasma capsulatum*) in the United States [2, No. 304].

532. French (E. Elizabeth), Jillson (O. F.), & Crispell (L. S.). **Histoplasmosis in a life-long resident of New England.**—*New Engl. J. Med.*, 249, 7, pp. 270–272, 4 figs., 1953.

The first case of proved histoplasmosis (*Histoplasma capsulatum*) in New England is reported from a New Hampshire clinic. The patient, a 44-year-old male, had worked on a farm in Vermont, where infection is believed to have been contracted through the soil of chicken houses [1, No. 2451]. The larynx was definitely affected and there was a strong possibility of dissemination with pulmonary and adrenal involvement.

After five weeks on Sabouraud's agar the primary isolate remained a small, brownish, granular colony, whereas a three-week-old subculture produced a large, cottony growth. Cultural mounts demonstrated the diagnostic tuberculate chlamydospores [cf. 2, No. 519].

533. Puckett (T. K.). **Pulmonary histoplasmosis ; a study of twenty-two cases with identification of Histoplasma capsulatum in resected lesions.**—*Amer. Rev. Tuberc.*, 67, 4, pp. 453–476, 17 figs., 1953.

A series of 22 cases of pulmonary histoplasmosis (*Histoplasma capsulatum*) referred to the Fitzsimons Army Hospital, Denver, Colorado, from all Army areas of the United States is described and analysed. Diagnosis was based on microscopic examination of resected lung tissue, only one case being proved positive by culture. Organisms in healed or healing lesions are believed to be non-viable. The types of lesion are divided into four well-defined groups, viz., (1) focal encapsulated pneumonitis with no satellite lesions, (2) a large focus of encapsulated pneumonitis, epithelioid tubercles, or minute necrotic foci surrounded by dense capsules, (3) a large focus of encapsulated pneumonitis

with foci extending along the lymphatic channels, and (4) a cavity with adjacent tubercles and encapsulated necrotic foci. Infection is believed to have originated in the bronchial tree. The probable sequence in lesion development following the establishment of infection is discussed. The routine use of periodic acid-Schiff stain [2, No. 1824] in the investigation of pulmonary diseases is urged.

534. Wilkerson (W. W.). **Histoplasmosis.**—*Trans. Amer. Acad. Ophthal. Otolaryng.*, 56, 6, pp. 900–909, 1952.

The author reviews the available knowledge of benign and acute histoplasmosis (*Histoplasma capsulatum*) and discusses the possible correlation of the disease in Kansas with the mineral content of the grass, which decreases with an increase in the number of human and bovine histoplasmin reactors towards the eastern part of the State.

535. Charr (R.). **Histoplasmosis ; report of two cases.**—*Amer. Rev. Tuberc.*, 67, 3, pp. 376–384, 2 figs., 1953.

Two fatal cases of histoplasmosis (*Histoplasma capsulatum*) are reported from the Jefferson Hospital, Philadelphia, Pennsylvania. In the first, a 48-year-old Greek, resident in the United States for 18 years, ulceration of the palate culminated in its complete erosion and in infection of the lungs. Histoplasmin tests were positive and tuberculin tests negative, *H. capsulatum* being found in biopsy specimens. There was no response to various treatments, including antibiotics, iodine, and X-rays.

Streptomycin and desoxycorticosterone were also ineffectual against histoplasmosis of the larynx and lungs in a 62-year-old male with concomitant pulmonary tuberculosis.

536. Gordon (M. A.) & Cupp (H. B.). **Detection of Histoplasma capsulatum and other fungus spores in the environment by means of the membrane filter.**—*Mycologia*, 45, 2, pp. 241–252, 1 pl., 1 fig., 1953.

In studies at the Communicable Disease Center, Atlanta, Georgia, the Goetz membrane filter provided a simple, rapid, and efficient method for the detection of fungal spores in hydrosols and aerosols. The exposed membrane may be subjected to a selective stain and examined through the compound microscope by means of transmitted light. In field trials of this filter typical tuberculate spores of *Histoplasma capsulatum* were obtained from soil samples and river water. Macroconidia of *Microsporum gypseum* were also found in soil. A technique for preparing stained permanent transparent mounts of the filter disks is described.

537. Sutliff (W. B.), Hughes (F.), Ulrich (E.), & Burkett (L. L.). **Active chronic pulmonary histoplasmosis.**—*Arch. intern. Med.*, 92, 4, pp. 571–586, 6 figs., 1953.

Reports from the Veterans Administration Hospital, Memphis, Tennessee, of four new cases of active, chronic pulmonary histoplasmosis (*Histoplasma capsulatum*) in the Mississippi Valley are presented and compared with seven selected from the literature. The clinical manifestations of the disease tend to be uniform and include chronic cough, fever, and lesions simulating tuberculosis, usually in the upper lobes of the lungs. Specific tests for tuberculosis usually yield negative results and *H. capsulatum* can be demonstrated in biopsy specimens and sputum. The course of the disease is benign and is not altered by medical therapy, though surgical excision of infected pulmonary tissue has been beneficial in some cases.

538. Morgan (H. J.) & Shapiro (J.). **Histoplasmosis of the gastro-intestinal tract.**—*J. Tenn. med. Ass.*, 45, 12, pp. 488–491, 1952.

A case of histoplasmosis (*Histoplasma capsulatum*) in a 49-year-old woman, involving the gastro-intestinal tract, lung, liver, and adrenal glands, which was not diagnosed till autopsy, is reported from the Vanderbilt University Hospital, Nashville, Tennessee.

539. Saslaw (S.) & Campbell (C. C.). **Effect of histoplasmin skin testing on serologic results.**—*Proc. Soc. exp. Biol., N.Y.*, 82, 4, pp. 689–691, 1953.

The results of experiments carried out on students at the Ohio State University and the Walter Reed Army Medical Center, Washington, showed that repeated positive histoplasmin skin tests on normal persons caused 57·1 per cent. false positive reactions in the collodion agglutination test, 78·6 per cent. in the complement-fixation test with histoplasma yeast-phase antigen, and 85·7 per cent. with histoplasmin, positive results being noted from 21 to 39 weeks after histoplasmin testing. A single positive test and repeated negative tests did not alter the serological results. A transient response was observed in complement-fixation studies with cross-reacting yeast-phase blastomycosis [*Blastomyces dermatitidis*] antigens.

540. Katayama (R.), Takashima (T.), & Hibino (S.). **The histoplasmin sensitivity investigation in Japan. The preliminary report.**—*Nagoya J. med. Sci.*, 15, 3, pp. 165–172, 1 map, 1952.

The results of an investigation of histoplasmin sensitivity among 6,511 persons representing 13 occupational groups in Japan were almost entirely negative except in two groups, (1) comprising 838 Japanese employees of the United States Armed Forces in Nagoya City and (2) 471 workers at the 'N' chinaware factory, in which the numbers of positive and doubtful reactors were 16 and 22 and 28 and 51 or 1·9 and 5·9 per cent., respectively. Among all the other groups there were only seven positive and 107 doubtful reactors. The relatively high figures at the chinaware factory suggest the possibility of dissemination through the soil [cf. 1, Nos. 2221, 2451, 2542, *et passim*].

541. Manos (N. E.). **Histoplasmin sensitivity conversion rates.**—*Amer. J. Hyg.*, 58, 1, pp. 119–131, 9 figs., 1953.

Analyses of published data on the prevalence of histoplasmin sensitivity by age for children in Kansas, Missouri, and central Tennessee support the hypothesis that a constant conversion rate operates among those negative to histoplasmin up to about 18 years of age. This conversion rate does not appear to begin operating at the same age for all groups. The existence of subgroups with widely different conversion rates (increasing, for instance, among children living in damp homes), may result in a composite rate that decreases with age, even if the rate for each subgroup is constant. The instantaneous conversion rate and the apparent initial age for this rate are proposed as useful indices in the study of the epidemiology of histoplasmin sensitivity.

542. Troxell (M. A.). **A histoplasmin and tuberculin study of psychiatric patients having abnormal chest roentgenograms.**—*Minn. Med.*, 36, 3, pp. 235–239, 1953.

Of 103 patients at the Hastings State Hospital (for mental diseases), Minnesota, submitted to tuberculin and histoplasmin tests, 40 were histoplasmin-positive. Complement-fixation tests for histoplasmosis (*Histoplasma capsulatum*) on sera from these patients were negative, as were similar tests for blastomycosis (*Blastomyces dermatitidis*) and coccidioidomycosis (*Coccidioides*

immitis) carried out on a group of 30. Of the positive histoplasmin reactors, only one was 'four plus' and two were 'three plus'. There was a higher incidence (39 per cent.) of positive histoplasmin reactions among this group of mental patients than in the area in the immediate vicinity of the hospital (4 to 10 per cent.).

543. Schwarz (J.). **Giant forms of Histoplasma capsulatum in tissue explants.**—*Amer. J. clin. Path.*, 23, 9, pp. 898–903, 4 figs., 1953.

At the Cincinnati (Ohio) General Hospital, yeast-like cells, up to 20 μ in diameter, were observed in tissue explants of organs containing *Histoplasma capsulatum*. They developed rapidly and were numerous after a week's incubation at 37° C. The growth on subcultures from the tissues was grossly and microscopically characteristic of the fungus. The giant cells seem to arise by enlargement from the typical yeast-like cells and not from hyphae. Germ-tubes were emitted by some of the large cells.

The relative frequency of microforms of *Blastomyces dermatitidis* and the possible development of giant forms of *H. capsulatum* point to the need for cultural as well as histopathological studies to avoid confusion.

544. Wilson (H. M.) & Duryea (A. H.). **Pulmonary histoplasmosis ; report of a case long considered tuberculous improved by actidione.**—*Dis. Chest*, 21, 3, pp. 346–353, 4 figs., 1952.

The case of a 51-year-old man supposed to have been suffering from pulmonary tuberculosis from 1925 to 1949, although acid-fast bacilli were never recovered, is reported from the Veterans Administration Hospital, Alexandria, Louisiana. In 1949 *Histoplasma capsulatum* was repeatedly cultured from the patient's sputum and a diagnosis of histoplasmosis was made. Upper right lobectomy was performed but failed to allay the course of the disease; however, prolonged treatment with actidione, administered both orally and intravenously, effected an apparent cure. Cultures of *H. capsulatum* from the sputum were not inhibited *in vitro* by actidione [cf. next entry].

545. Larsh (H. W.), Hinton (A.), & Furcolow (M. L.). **Laboratory studies of Histoplasma capsulatum. III. Efficiency of the flotation method in isolation of Histoplasma capsulatum from soil.**—*J. Lab. clin. Med.*, 41, 3, pp. 478–485, 1953.

Attempts made at the Communicable Disease Center, Atlanta, Georgia, to concentrate *Histoplasma capsulatum* spores from artificially inoculated soil by the flotation method [1, No. 2221] showed it to be relatively inefficient, the bulk of the spores remaining in the sediment, where they appear to be firmly associated with the soil particles. Until a better method has been developed, the most effective procedure seems to be the intraperitoneal injection of white mice with a 1 in 10 dilution of soil previously treated with streptomycin and penicillin, which yielded 25 isolations from 382 natural soil samples. Actidione in concentrations up to 1·5 per ml. failed to inhibit one strain of *H. capsulatum* [cf. preceding entry].

546. Cole (C. R.), Farrell (R. L.), Chamberlain (D. M.), Prior (J. A.), & Saslaw (S.). **Histoplasmosis in animals.**—*J. Amer. vet. med. Ass.*, 122, 915, pp. 471–473, 1953.

The available information on histoplasmosis (*Histoplasma capsulatum*) in animals (chiefly dogs) is summarized under the headings of symptomatology, pathology, diagnosis, and studies on communicability [1, No. 2135]. Of 14,000 dogs admitted to the clinic at the Ohio State University College of Veterinary Medicine during a four-year period, 62 (0·44 per cent.) were found to be suffering from the disease [see also next entry].

547. Farrell (R. L.), Cole (C. R.), Prior (J. A.), & Saslaw (S.). **Experimental histoplasmosis. I. Methods for production of histoplasmosis in Dogs.**—*Proc. Soc. exp. Biol., N.Y.*, 84, 1, pp. 51–54, 2 figs., 1953.

All the nine dogs inoculated intratracheally with the yeast phase of *Histoplasma capsulatum* at the College of Veterinary Medicine, Ohio State University, developed acute, progressive, fatal histoplasmosis, whereas no clinical symptoms appeared in any of the seven given the same inoculum by stomach tube. The mycelial phase produced no clinical evidence of infection in nine and ten normal dogs inoculated by the intragastric and intratracheal routes, respectively, whereas those treated with cortisone were susceptible to inoculation by the latter but not by the former channel. Dogs previously inoculated with the mycelial phase were resistant to reinfection even when given cortisone, but they succumbed to challenge doses of intratracheal yeast phase in the absence of the drug.

548. Reiersøl (S.). **An investigation of the occurrence of fungi in 250 laryngeal swabs from tuberculous patients.**—*Acta path. microbiol. scand.*, 32, 4, pp. 500–507, 1953.

Of 250 laryngeal swabs from tubercular patients examined at the State Institute for Public Health, Oslo, Norway, 122 were sterile, 15 yielded various mould isolates, and 114 were positive for yeast species.

549. Singer (D. E.), Freeman (Elizabeth S.), Hoffert (W. R.), Keys (R. J.), Mitchell (R. B.), & Hardy (A. V.). **Otitis externa. Bacteriological and mycological studies.**—*Ann. Otol., etc., St. Louis*, 61, 2, pp. 317–330, 1952.

Only limited etiological significance is attached to the fungi represented in 646 cultures from the external auditory canals of 405 American military personnel stationed in Florida. The predominant species were a *Candida* (not *albicans*) and an *Aspergillus*.

550. **Aplastic anemia in a patient receiving chloramphenicol.**—*Amer. J. Med.*, 13, 6, pp. 782–792, 10 figs., 1952.

An autopsy on a patient from Barnes Hospital, Washington, who died from aplastic anaemia following prolonged antibiotic therapy, especially with chloramphenicol, for prostatitis, showed that he had also been suffering from disseminated moniliasis (*Candida albicans*), which was not diagnosed during life.

551. Cader (E. T.). **Generalized moniliasis.**—*Arch. Derm. Syph., Chicago*, 68, 1, pp. 105–106, 1953.

A case of generalized moniliasis (*Candida albicans*), complicated by other diseases, in a young child is reported from Rochester, Minnesota, and discussed with particular reference to the use of aromatic diamidines and disodoquin as potential therapeutants.

552. Caputi (F.). **L'azione penicillinasica e streptomicinasica della Mycotorula albicans.** [The penicillinasic and streptomycinasic action of *Mycotorula albicans*.]—*Boll. Soc. ital. Biol. sper.*, 28, 11, p. 1774, 1952.

Further studies at the Institute of Hygiene and Microbiology, Bari, Italy, showed that neither penicillin nor streptomycin, the former added to the broth from an old culture of *Mycotorula* [*Candida*] *albicans* [2, No. 104] and the latter to a suspension of the old, killed microbes in fresh broth, impaired antibiotic activity. The reduction obtained when *C. albicans* was grown in bouillon to which the antibiotics had been added was probably due to enzymatic activity by the organism.

553. Cohen (A. C.). **Pulmonary moniliasis.**—*Amer. J. med. Sci.*, 226, 1, pp. 16–23, 6 figs., 1953.

Four cases of pulmonary moniliasis (*Candida albicans*) are reported from the Veterans Administration Hospital, Butler, Pennsylvania. A positive diagnosis is difficult to establish and should only be made if the fungus can be isolated consistently and in large quantities, if the sputum is consistently negative for tubercle bacilli, and if no other etiological agent can be found. If pulmonary moniliasis is diagnosed the patient should be desensitized to *C. albicans* and treated with large doses of iodides and intravenous gentian violet.

554. Ebert (R.), Schulman (S.), & Richter (R. B.). **Clinical pathological conference on a typical case of tuberculous meningitis with moniliasis, cerebral arteriosclerosis and terminal bronchopneumonia.**—*Neurology*, 3, 5, pp. 375–383, 1953.

From the University of Chicago Clinics is reported the case of a 56-year-old woman suffering from severe moniliasis (*Candida albicans*) of the mouth, hands, feet, ears, perineum, and nails, which failed to respond to any form of therapy. The appearance of a cervical abscess was at first thought to be a further manifestation of the moniliasis, but was later shown to be of a tuberculous nature. Her rapid deterioration and death argued as little natural resistance to tuberculosis as to moniliasis.

555. Fahlberg (W. J.). **The effect of di-paralene (chlorcyclizine hydrochloride) on systemic fungus infections in Mice.**—*J. invest. Derm.*, 21, 2, pp. 125–129, 1953.

Since di-paralene (chlorcyclizine hydrochloride) was found to be effective *in vitro* against *Candida albicans* and *Cryptococcus neoformans*, the effect of the compound was tested on mice artificially infected with these fungi at Houston, Texas. In spite of the large doses which are tolerated by mice, no therapeutic effect was observed; in fact, the compound appeared rather to exert a potentiating influence on these systemic infections.

556. Friou (G. J.). **A study of the cutaneous reactions to oidiomycin, trichophytin and mumps skin test antigens in patients with sarcoidosis.**—*Yale J. Biol. Med.*, 24, 6, pp. 533–539, 1952.

The results of a study at Newington, Connecticut, of the reactions of patients with sarcoidosis to extracts of *Candida albicans* and *Trichophyton gypseum* [*T. mentagrophytes*], demonstrated a generalized depression of activity as compared with a group of controls, reaching a maximum in those with negative tuberculin reactions. The fact that this 'anergy' is not specific to tuberculin, as was previously thought, does not support the view that the tubercle bacillus is the etiological agent of sarcoidosis.

557. Joulia (P.), Le Coulant (P.), L'Épée, & Texier. **À propos de trois cas de blastomycose cutanée à foyers multiples.** [In connexion with three cases of cutaneous blastomycosis with multiple foci.]—*Ann. Derm. Syph., Paris*, 79, 5, pp. 501–516, 12 figs., 1952.

Three cases of cutaneous blastomycosis are reported from Bordeaux, two in males aged 56 and 20 years and one in a 52-year-old female. All were characterized by acneiform elements which rapidly developed into extensive ulcerations or gummous lesions, or (in one case) both. A pseudo-yeast of the *Candida albicans* type was isolated from two of the patients; in the third all attempts at culture gave negative results. Cures were effected by the administration of aureomycin (2 mg. daily) combined with curettage.

558. Mountain (D. C.) & Krumenacher (F. P.). **Oral undecylenic acid in the prevention of the so-called monilial complications secondary to the use of aureomycin, chloramphenicol and terramycin.**—*Amer. J. med. Sci.*, 225, 3, pp. 274–280, 1953.

None of the 20 patients treated at Marquette University Medical School and Columbia Hospital, Milwaukee, Wisconsin, treated simultaneously with oral undecylenic acid and either aureomycin, chloramphenicol, or terramycin, developed lung complications due to *Monilia* [*Candida*] *albicans*, but 3·2 per cent. of those given undecylenic acid three days after the start of antibiotic therapy contracted pruritus ani, and 26·7 per cent. of the control cases exhibited other monilial symptoms. Evidently, therefore, oral undecylenic acid prevents the side-effects of antibiotic therapy associated with *C. albicans*, but the results of clinical observations lent no support to the view that avitaminosis B [2, No. 98] is concerned in their production.

559. McGovern (J. J.), Parrott (H. H.), Emmons (C. W.), Ross (S.), Burke (F. G.), & Rice (E. C.). **The effect of aureomycin and chloramphenicol on the fungal and bacterial flora of children.**—*New Engl. J. Med.*, 248, 10, pp. 397–403, 1 graph, 1953.

At the Children's Hospital, Washington, D.C., *Candida albicans* was present in small numbers in the mouths of 14 and in the recta of six out of 100 normal children. Aureomycin was administered orally to 21 normal children for eight days, while 24 were given chloramphenicol intramuscularly or orally for 10 to 14 days. Before treatment the incidence of *C. albicans* in the gastro-intestinal tract of this group of 45 was 17 per cent., and by the end of the period it had risen to 33 per cent. At the same time yeasts and other *C.* spp. also increased, while the normal bacteriological flora declined substantially [cf. 2, Nos. 355, 358].

560. Netto (J. L.), Moura (R. de A.), & Lima (L. P. de C.). **Ação in vitro de aureomicina oral e do fosfato bicálcico sôbre o crescimento de Candida albicans.** [Action of oral aureomycin and of bicalcium phosphate on the growth *in vitro* of *Candida albicans*.]—*Rev. Inst. Lutz*, 12, pp. 173–178, 1952. [English summary.]

At the Institute Adolfo Lutz, São Paulo, Brazil, no evidence was obtained in *in vitro* experiments of growth stimulation in cultures of *Candida albicans* on maltose broth by oral aureomycin [cf. 2, Nos. 559, 562] or bicalcium phosphate, a normal component of the capsules.

561. Nickerson (W. J.). **Reduction of inorganic substances by yeasts. I. Extracellular reduction of sulfite by species of Candida.**—*J. infect. Dis.*, 93, 1, pp. 43–56, 4 figs., 1 diag., 1953.

At the Department of Microbiology, Rutgers University, New Brunswick, New Jersey, the capacity of some 50 different yeasts, representing 12 genera, to reduce sulphite to sulphide was examined on a variety of media, using three heavy metal indicators. Pronounced reducing capacity, resulting in the development of jet-black growths on certain bismuth-sulphite agar media, was exhibited only by species of *Candida*. *C. albicans*, *C. krusei*, and *C. tropicalis* secreted material accomplishing the extracellular reduction of sulphite under aerobic conditions in an acid environment. The participation of an enzymatic reaction in the extracellular reduction of bismuth hydroxy sulphite was demonstrated. Secretion of the sulphite-reducing system was shown by two distinct plate culture methods not to depend on the presence of sulphite or bismuth in the substratum.

The uses of three bismuth-sulphate yeast media for the isolation and identification of *C.* spp. are described.

562. Nicora (G.). **Note eziologiche e cliniche sulla infezione da mughetto consecutiva all'impiego degli antibiotici, nelle operate.** [Etiological and clinical observations on moniliasis consequent on the administration of antibiotics to surgical patients.]—*Clin. ostet.*, 54, 6, pp. 321–328, 1952. [French, English, and German summaries.]

At the Obstetrical Clinic of the University of Parma, Italy, 63 out of 450 surgical patients (14 per cent.) receiving prophylactic antibiotic therapy contracted various forms of thrush (*Monilia*) [*Candida*] [2, No. 560]. Very encouraging results were given by the association with the antibiotics of the vitamin B complex and more especially lactoflavin.

563. Reich (W. J.), Nechtow (M. J.), Kurzon (A. M.), Subotnik (N.), & Reich (J. B.). **The treatment of monilial vaginitis with caprylic acid.**—*Amer. J. Obstet. Gynec.*, 65, 1, pp. 180–185, 1 fig., 1953.

Of 93 cases of monilial vaginitis (*Candida albicans*) [2, No. 106] treated with caprylic acid at Chicago, Illinois, 85 per cent. showed clinical and laboratory cure within five weeks. Previous antibiotic therapy is regarded as an important cause of the resistance of this disease to treatment, and the use of unsatisfactory diagnostic procedures may account for the large number of relapses reported. Plate cultures, especially when the medium was fortified with penicillin and neomycin, were very superior to direct microscopic examination for the identification of the causal organism. The advantages of caprylic acid over the numerous other substances tested against this disease include its satisfactory fungicidal and fungistatic action, ready penetration of the epithelial layers, bacteriostatic effect, and freedom from any marked tendency to sensitization.

564. Reid (D. J.), Jones (Muriel M.), & Carter (Evelyn B.). **A simple, clear medium for demonstration of chlamydospores of Candida albicans.**—*Amer. J. clin. Path.*, 23, 9, pp. 938–941, 2 figs., 1953.

At the Medical College of Virginia, Richmond, the writers obtained early and profuse production of chlamydospores of *Candida albicans* (19 strains), *C. guilliermondi*, *C. krusei*, *C. parakrusei*, *C. stellatoidea*, *C. tropicalis*, and *C. pseudotropicalis* on a medium consisting of 40 gm. zein (the basic protein of maize meal), 1,000 ml. water, and 15 gm. agar, which proved superior to maize meal itself for the purpose in view.

565. Scherr (G. H.). **The effect of environmental temperature on the course of systemic moniliasis in Mice.**—*Mycologia*, 45, 3, pp. 359–361, 1 graph, 1953.

At the Department of Bacteriology of the University of Kentucky, Swiss mice systemically infected with *Candida albicans* showed a more active dissemination of the disease and a higher death rate at 5° to 12° and 35° to 37° C. than at 15° to 20° and 28° to 32°.

566. Seligmann (E.). **Virulence enhancement of Candida albicans by antibiotics and cortisone.**—*Proc. Soc. exp. Biol., N.Y.*, 83, 4, pp. 778–781, 1953.

Further laboratory experiments on mice at the Beth Israel Hospital, New York City, corroborated previous results in respect of the enhanced virulence of *Candida albicans* induced by aureomycin [1, No. 2482; 2, No. 109] and

demonstrated a comparable action by terramycin. Only intraperitoneal injections of either drug with the fungus resulted in the production of fatal infection. The subcutaneous administration of 2·5 mg. cortisone two hours before and two hours after intraperitoneal injection with *C. albicans* lowered the resistance of the animals in such a way that they succumbed to generalized infection.

567. Taschdjian (Claire L.). **A simply prepared identification medium for Candida albicans.**—*Mycologia*, 45, 3, pp. 474–475, 1953.

Full directions are given for the preparation of a medium consisting of 20 gm. white rice, 1,000 ml. tap water, and 20 gm. agar which induces the formation of chlamydospores in *Candida albicans* as satisfactorily as maize meal agar [2, No. 564]. Inoculation with the fungus was consistently followed by abundant chlamydospore formation in 17 to 24 hours. With the addition of 2 per cent. dextrose, this medium can also be used instead of maize meal for the differentiation of *Trichophyton mentagrophytes* and *T. rubrum*.

568. Thjötta (T.), Johnsen (J.), & Rasch (S.). **Antigen studies in fungi.**—*Acta path. microbiol. scand., Suppl.* 93, pp. 367–374, 1 diag., 1 graph, 1952.

A study by means of a modified acetate extraction technique and a slightly modified Fuller's formamide method of the production of antigens by *Candida albicans* [1, No. 2289 and next entries] demonstrated that an increasing amount of antigen, added to a fixed amount of serum, gives an increasing amount of antibody nitrogen up to a certain point. With the lesser amounts of antigen the whole amount is fixed to the antibody, as shown by the fact that the supernatant, after centrifugalizing out the sediment, is still able to bind more antigen and give further precipitations, whereas the addition of more antibody-containing serum does not give any new precipitations. The maximum amount of antibody is found when neither antigen nor antibody can be detected in the supernatant. When the values found for the antibody nitrogen are plotted graphically against the amounts of antigen used the resultant smooth curve is characteristic of homologous antigen-antibody reactions. The authors were unable to discover any serologically active substances present in *C. albicans* in that fraction where Fuller found bacterial group antigens.

569. Thjötta (T.), Johnsen (J.), & Rasch (S.). **Studies on agglutination of fungi. I. Technique for quantitative determination.**—*Acta path. microbiol. scand.* 23, 1, pp. 72–78, 1 graph, 1953.

From the Wilhelmsen Bacteriological Institute, Oslo, Norway, the authors present data showing the applicability of quantitative agglutinin nitrogen determinations in systems involving species of *Candida*, including *C. albicans* [see preceding and next entries], and their antibodies in rabbit serum [cf. 2, No. 353].

570. Johnsen (J.), Thjötta (T.), & Rasch (S.). **Quantitative agglutination studied in fungi. 2. Serological relationship between C. albicans and C. stellatoidea.**—*Acta path. microbiol. scand.*, 23, 1, pp. 86–91, 1953.

Evidence is adduced from quantitative determinations by the agglutinin nitrogen method [see preceding entry] for the close relationship of *Candida albicans* and *C. stellatoidea* and their clear-cut differences from many other representatives of the *Candida* group, including *C. pseudotropicalis* and a species of *Geotrichum*.

571. Singer (D. E.), Pierce (L. V.), Yawn (E. C.), Hardy (A. V.), & Mitchell R. B.). **A rapid procedure for determining relative antibiotic sensitivities of microorganisms.**—*Texas Rep. Biol. Med.*, 11, 1, pp. 122–137, 1953.

A rapid method for the determination of the relative antibiotic sensitivities of pathogenic organisms is described jointly from the Bureau of Laboratories, Florida State Board of Health and the United States Air Force School of Aviation Medicine. It consists of the inoculation of agar plates containing bacteriological media with the body fluids and exudates to be tested and the application to them of paper disks soaked in known concentrations of seven antibiotics in common use. Inhibition zones become apparent within 24 to 48 hours. The procedure has been used for yeast-like organisms, as well as for numerous bacteria, and the results are almost invariably consistent with those of tube titration methods.

572. Kile (R. L.), Rochwell (E.), & Schwarz (J.). **Topical use of polymyxin-bacitracin ointment in dermatology.**—*Arch. Derm. Syph., Chicago*, 68, 3, pp. 290–302, 1953.

In trials carried out at the University of Cincinnati with a wide-spectrum antibiotic ointment consisting of a mixture of polymyxin-B [1, No. 2312] and bacitracin [1, No. 1571] for use in infective skin conditions, polymyxin B exerted no effect on five out of ten strains of *Candida albicans* tested and was fairly active against only one. Bacitracin was not tested against the fungus.

573. Trejos (A.). **Evidence for synonymy of Torula bergeri and Phialophora jeanselmei.**—*Mycologia*, 45, 2, pp. 253–259, 2 pl., 1953.

A comparative study of cultures of *Torula bergeri* isolated by Berger and his co-workers in Canada [1, No. 1653] and of cultures of other agents of chromoblastomycosis and maduromycosis revealed no specific differences between *T. bergeri* and *Phialophora jeanselmei* [1, Nos. 529, 530, 650, 1372, 1727], and it is concluded, therefore, that the two species are synonymous.

574. Mescon (H.), Eiman (J. W.), & Kligman (A. M.). **Fungi in human neoplastic tissue.**—*Cancer Res.*, 13, 4–5, pp. 318–320, 1953.

At the Hospital of the University of Pennsylvania, Philadelphia, 63 benign and malignant tumours were cultured for fungi, of which 23 specimens revealed no growth, while 16 different fungi were isolated from the remainder. The organisms occurring most frequently were species of *Aspergillus*, *Alternaria*, *Candida*, *Rhodotorula* and *Mucor*, but none was isolated from more than 15 per cent. of the positive specimens. In addition, sections of these tumours and of others to a total of 255 specimens were examined microscopically by the Hotchkiss–McManus technique [1, No. 1824] with negative results. It is concluded that the fungi isolated from the human neoplasms were probably contaminants.

575. Clarke (P. R. R.). **Mycetoma of the testis.**—*Lancet*, 265, 6800, p. 1341, 1953.

During the period from August, 1951, to December, 1952, operations were performed on 115 patients suffering from mycetoma at the Wad Medani Hospital, Gezira, Sudan. One case involving the testis is briefly described.

576. Aronson (S. M.), Benham (Rhoda), & Wolf (A.). **Maduromycosis of the central nervous system.**—*J. Neuropath.* 12, 2, pp. 158–168, 6 figs., 1953.

The first reported instance of maduromycosis of the central nervous system, occurring in Trinidad but later transferred to and reported from the Neurological Institute, New York, is described in detail. The causal fungus, *Alles-*

cheria boydii [1, No. 973; 2, No. 336], which was isolated from the spinal fluid, is believed to have been introduced into the subarachnoid space when spinal anaesthesia was given for an operation for ventral hernia, the first symptoms appearing about a week later and Trinidad being an endemic area for maduromycosis. The infection was confined to the central nervous system and failed to react to any form of therapy, thus conforming to the general strictly localized and chronic form assumed by the disease in the extremities. The exudative and proliferative changes in the lepto-meninges appeared to be sufficient to cause a partial obstruction of the flow of cerebro-spinal fluid.

577. Gleiser (C. A.). **Mucormycosis in animals. A report of three cases.**—*J. Amer. vet. med. Ass.*, 123, 920, pp. 441–445, 6 figs., 1953.

Following a brief survey of the literature on mucormycosis, the author reports the autopsy findings at the Armed Forces Institute of Pathology, Washington, D.C., in three cases of the disease, two in dogs and one in a heifer, in which species of *Mucor* appeared to be etiologically implicated.

578. Bakerspigel (A.). **Soil as a storage medium for fungi.**—*Mycologia*, 45, 4, pp. 596–604, 6 figs., 1953.

In studies at the Provincial Laboratory of Public Health, University of Alberta, Edmonton, Canada, seven dermatophytes and six systemic pathogens, stored on loam at room temperatures, were still viable after 13 months. In a control series of agar slants, all the dermatophytes produced white tufts of aerial mycelium which overgrew the cultures and rendered them mutually indistinguishable, whereas in cultures made from the loam used for storage the new mycelia were in the 'wild' or 'primary' state and showed no trace of pleomorphism. During the first month or two after inoculation, the storage material remained moist and was covered and permeated by webs of mycelium and masses of spores. Later the soil dried up and showed no sign of fungus.

The evidence thus obtained suggests that soil storage of fungi in the laboratory would obviate the periodical transfer of agar stock cultures and provide a rich source that could be drawn upon repeatedly for years, besides preventing pleomorphic changes.

579. Lindemayr (W.). **Dermatomycoses et eczémas professionels.** [Dermatomycoses and occupational eczemas.]—*Pr. méd.*, 61, 12, pp. 231–232, 1953.

Some diagnostic and therapeutic problems arising from the co-existence of dermatomycoses and occupational eczemas are discussed and illustrated by the presentation of selected case histories from Vienna.

580. Matras (A.). **Die Mykosen der Füsse und Hände und ihre Behandlung.** [Mycoses of the feet and hands and their therapy.]—*Wien. med. Wschr.*, 103, 1, pp. 1–3, 1953.

This is a summary of essential information on the symptomatology, diagnosis, and therapy of dermatomycoses involving the feet and hands in Austria.

581. Margarot (J.), Rimbaud (P.), Izarn (P.), & Rioux (J.-A.). **Action locale fungicide de certains antihistaminiques en solution aqueuse.** [Local fungicidal action of some antihistamines in aqueous solution.]—*Bull. Soc. franç. Derm. Syph.*, 59, 5, pp. 426–430, 1952.

The anti-histaminic compound 3,554 R.P. (multergan), which exerted a powerful fungistatic effect at a concentration of 2·5 per cent. in *in vitro* tests on various species of *Candida*, was applied to eight patients suffering from various forms of dermatomycosis at a Paris hospital with encouraging results.

582. Van De Erve (J.). **Fungicidal activity of diphenylpyraline.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 572–574, 1953.

The antihistaminic compound diphenylpyraline (1-methyl-piperidyl-4 benzhydryl ether) was tested on 126 cases of fungal infections of the skin, including some caused by *Monilia* [*Candida*], in the hot, humid atmosphere of Charleston, South Carolina [1, No. 2355]. In 73 cases a cure was obtained in an average of 21 days and 24 showed improvement, while 22 (a number of them caused by *Trichophyton rubrum*) failed to respond. The drug exerted a distinct anti-pruritic effect.

583. Lewis (G. M.), Dougherty (J. W.), & Standish (E. M.). **Superficial fungous infections.**—*Postgrad. Med.*, 12, 1, pp. 27–33, 1952.

Information on a number of superficial fungal infections is concisely summarized under the aspects of definition, symptoms, incidence, mycology, immunology, prognosis, and treatment.

584. Schreus (H. T.) & Emde (K. H.). **Elektronenoptische Untersuchungen an einigen pathogenen Hautpilzen.** [Electronoptic studies on some pathogenic skin fungi.]—*Hautarzt, Berl.*, 4, 1, pp. 14–16, 4 figs., 1953.

The writers' electron-microscopic examination of cultures of various dermatophytes failed to disclose any specific morphological features (other than those revealed by the light microscope) which might assist in differential diagnosis.

585. Krüger (H.) & Rust (S.). **Über follikuläre Dermatomykosen der Unterschenkel.** [On follicular dermatomycoses of the leg.]—*Z. Haut- u. Geschlechtskr.*, 15, 10, pp. 322–324, 4 figs. (between pp. 326 and 328), 1953.

From the Rudolf Virchow Hospital, Berlin, the authors report five cases (all in women) of long-standing (up to 13 years) follicular mycoses of the leg, in which the causal organisms could not be diagnosed and therapeutic measures were consequently unavailing.

586. Götz (H.). **Fortschritte der medizinischen Mykologie (I) (II).** [Advances in medical mycology (I) (II).]—*Hautarzt, Berl.*, 4, 3, pp. 97–107; 4, pp. 145–151, 1953.

This is a review of up-to-date developments in medical mycology, based on the author's experience at the Dermatological Clinic of the University of Munich and an exhaustive study of the relevant literature.

587. Roth (W.). **Dermatomykosebehandlung.** [Treatment of dermatomycoses.]—*Z. ärtzl. Fortbild*, 46, 9–10, p. 258, 1952.

The spread of [unspecified] dermatomycoses in Germany is described as 'alarming'. Swimming-baths are the principal sources of contagion. At the Dr. Heim Sanatorium, Berlin-Buch, the author has found thioformol preparations superior to all others for the therapy of the complaint, especially where the feet are involved. Liquid 'antiphytin' should be applied twice daily to the affected areas, while very refractory cases may require the use of 'antiphytin-forte' ointment. New shoes should be worn if possible or old ones rinsed repeatedly with a 5 to 10 per cent. solution of formalin in ethyl alcohol.

588. Sanderson (P. H.) & Sloper (J. C.). **Skin disease in the British Army in S.E. Asia. III. The relationship between mycotic infections of the body and of the feet.**—*Brit. J. Derm.*, 65, 10, pp. 362–372, 1 graph, 1953.

In this further contribution to their studies on dermatomycosis in the British Army in South-East Asia [2, No. 606], the authors present data from an

investigation of 85 subjects in Singapore during 1947 and 1948 indicating that (1) where tinea corporis and tinea pedis co-existed they were usually due to the same organism; (2) the latter complaint was commoner than the former; and (3) measures aimed at the suppression of tinea pedis reduced the incidence of tinea corporis. It is concluded that in the population surveyed, tinea corporis was frequently acquired from the patients' own feet.

589. Hare (P. J.). **Amino-acid composition of eight dermatophyte fungi.**—*Lancet*, 265, 6798, pp. 1238–1239, 1953.

The results of qualitative determinations at University College Hospital, London, of the amino acid contents of *Microsporum audouini*, *M. canis*, *Trichophyton mentagrophytes* var. *gypseum*, *T. discoides*, *T. violaceum*, *T. rubrum*, and *Epidermophyton floccosum* revealed a close approximation to those of various non-pathogenic fungi. The growth of the parasites in keratin cannot, therefore, be explained on this basis.

590. Olah (I.). **Magyarország kórokozó gomba topográfiája.** [Topographical data on dermatomycosis in Hungary.]—*Népegészségugy*, 33, 11, pp. 387–390, 1952. [Abs. in *Excerpta med.*, *Amst.*, Sect. IV, 6, 9, p. 897, 1953.]

The action of 8-hydroxyquinoline was investigated on 10 dermatophytes and four non-pathogenic fungi on a liquid or solid, ground and mashed barley medium adjusted to pH 7·2. In liquid cultures the compound was fungistatic at 4 to 5 μgm. per ml., while in solid ones a concentration of 5 to 10 μgm. was necessary to produce comparable results. Non-pathogenic species were more resistant, the fungistatic dosages required ranging from 10 to 25 μgm. per ml. A solution of 0·5 per cent. 8-hydroxyquinoline in 30 per cent. alcohol was fungicidal in 30 to 60 minutes. The fungistatic action of the chemical was inhibited by zinc, iron, and cobalt ions.

591. Lofgren (R. C.) & Batts (E. E.). **New staining technique for ringworm diagnosis.**—*Stanford med. Bull.*, 10, 2, pp. 96–98, 4 figs., 1952.

At the Stanford University School of Medicine, San Francisco, California, the authors compared three methods for the detection of fungi in skin and nail scrapings, viz., the standard 10 per cent. potassium hydroxide technique, the periodic acid-Schiff (PAS) stain [1, No. 1824], and the reverse periodic acid-Schiff strain (reverse PAS), in which basic fuchsin is substituted for the Schiff reagent. Both PAS and reverse PAS were slightly superior to potassium hydroxide in respect of clarity and numbers of fungi demonstrated, but the special materials required and the time consumed in their application will limit their usefulness to mycological research laboratories. The average physician will find the potassium hydroxide technique quite adequate, but cultural methods are ineffectual.

592. Robinson (H. M.), Figg (F. H. J.), & Bereston (E. S.). **Fluorescence of Microsporum audouini infected hair.**—*Arch. Derm. Syph., Chicago*, 68, 2, pp. 129–135, 1953.

It was shown at the University of Maryland School of Medicine, Baltimore, that the fluorescent substance apparent in hair infected by *Microsporum audouini* can be extracted by boiling in distilled water. It dries to a fine, white powder which retains its fluorescence under Wood's light. When a hair is attacked, the fungus appears to react with the pigment to form the fluorescent substance, since grey hair and hair deprived of the fluorescent compound by extraction have almost identical spectra due to the absence of melanin [see next entries]. Some physical properties of the compounds are given; spectrographic observations indicate that it is a small molecule resembling a peptide.

593. Robinson (H. M.), Figge (F. H. J.), & Bereston (E. S.). **Fluorescence of Microsporum audouini infected hair. II. Cultural studies.**—*Arch. Derm. Syph., Chicago*, 68, 3, pp. 311–313, 1953.

In studies at the University of Maryland School of Medicine, various combinations of the amino acids found in keratin, and also of ammonium nitrate, nucleic acid, and melanin, added to artificial media and inoculated with *Microsporum audouini*, failed to show fluorescence under Wood's light, though tubes containing melanin presented a dull, grey appearance in these conditions. Growth of the fungus on artificial media was not affected by testosterone, ammiotin, or human sebum, but was inhibited by various porphyrins. That the fluorescence of a hair does not necessarily indicate the presence of a live fungal mycelium is shown by the fact that infected hairs stored for five years, from which no fungus could be cultured, still retained their fluorescence [see preceding and next entries].

594. Robinson (H. M.), Figge (F. H. J.), & Bereston (E. S.). **Inhibition of tyrosine-tyrosynase reaction by Microsporum audouini.**—*Arch. Derm. Syph. Chicago*, 68, 4, pp. 428–429, 1953.

The results of cultural studies at the University of Maryland School of Medicine, Baltimore, showed that when *Microsporum audouini* is grown on a tyrosine-containing medium with added tyrosinase, the production of melanin in the medium is inhibited in a zone immediately round the fungus colony. This suggests that *M. audouini* when growing on hair may produce a tyrosinase inhibitor preventing the formation of pigment, a supposition borne out by the similarity of the spectra of infected pigmented hair and non-infected grey hair [cf. preceding entries].

595. Wilson (J. W.), Levitt (H.), Carney (J. W.), & Yeaman (A.). **Temporary depilation of the scalp resulting from use of a new 'antifungal' chemical.**—*J. invest. Derm.*, 21, 3, pp. 131–133, 1 fig., 1953.

A preliminary report from the University of California shows that the oxalate and citrate of p-(betadiethylamino-ethoxy) phenyl-phenethyl ketone cause temporary depilation of the scalp when applied to it, or to the hands and feet, for the cure of fungal infections. This phenomenon was exhibited by 14 out of 92 patients irrespective of age, sex, race, or identity of the causal organisms, *Microsporum audouini*, *M. lanosum* [*M. canis*], and *Trichophyton tonsurans*, and in all but one the infection was completely eliminated. Increased dosage with the compound did not accentuate depilation, and in all cases hair growth was resumed from two to five weeks after the discontinuance of therapy.

596. Monash (S.). **Fungicidal action of various substances on scalp hairs infected with Microsporum audouini.**—*N.Y. St. J. Med.*, 52, 13, p. 1672, 1952.

Of a large number of substances, including ethyl alcohol, various soaps, organic solvents, potassium permanganate, and some known fungicides, tested for their action on *Microsporum audouini* in New York, only the known fungicides and lysol destroyed the fungus. Hence ordinary methods of hair-washing, dry-cleaning of clothing, and sterilization of instruments merely serve to spread tinea capitis.

597. Gordon (M. A.). **The occurrence of the dermatophyte, Microsporum gypseum, as a saprophyte in soil.**—*J. invest. Derm.*, 20, 3, pp. 201–206, 3 figs., 1953.

From the Communicable Disease Center, Atlanta, Georgia the author reports the detection of macroconidia of *Microsporum gypseum* in soil shaken with

normal saline and allowed to stand, the supernatant being filtered through a membrane which was stained by the periodic acid-Schiff technique. Typical colonies of the fungus were isolated from the same soil by plating it on actidione agar [2, No. 409] and shown to be pathogenic to man, though not to mice or guinea-pigs. In view of these results and of the fact that the same fungus was also isolated from humus used in a florist's shop, the soil is believed to serve as a reservoir of infection for the dermatophytes.

598. Daniels (G.). **The digestion of human hair keratin by Microsporum canis Bodin.**—*J. gen. Microbiol.*, 8, 2, pp. 289–294, 2 pl., 1953.

Studies in the Department of Cryptogamic Botany, University of Manchester, demonstrated that *Microsporum canis*, the agent of animal ringworm in children and adults [2, No. 159], is able to digest human hair keratin *in vitro*. The process of degradation was followed by microscopic observation and the resulting amino acids accumulating in the medium were analysed by chromatographic techniques.

599. Bereston (E. S.) & Robinson (H. M.). **Tinea capitis and corporis in an infant four weeks old.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 582–583, 1 fig., 1953.

A four-week-old boy suffering from tinea capitis and tinea corporis (*Microsporum audouini*) at the Baltimore Skin Clinic is believed to be the youngest recorded patient with this complaint.

600. Ajello (L.). **The dermatophyte Microsporum gypseum as a saprophyte and parasite.**—*J. invest. Derm.*, 21, 3, pp. 157–171, 10 figs., 1953.

Microsporum gypseum was isolated from 35 and 26 per cent. of moistened soil samples from Tennessee and Georgia, respectively, and incubated at room temperature with sterile human hair. The latter became visibly overgrown by the fungus, which was in pure culture on a selective medium containing antibiotics. Perforation of the hair filaments by the fungus was conspicuous. *Keratinomyces ajelloi*, a keratolytic but non-pathogenic fungus, was also isolated. There was a significant correlation between the soil samples positive for *M. gypseum* and the presence of animals at the collecting site. The surprisingly low incidence of recorded cases of human or animal infection by the fungus suggests that it is essentially a soil organism, participating in the microbiological breakdown of keratinaceous debris, and seldom parasitizing animals. The synonymy of the fungus is discussed and an extensive bibliography is appended.

601. Barlow (A. J. E.), Chattaway (F. W.), & Thompson (C. C.). **Effect of inhibitors on the metabolism of Microsporum.**—*Biochem. J.*, 55, 5, p. xxxi, 1953.

In this joint contribution from the Department of Dermatology, Huddersfield Royal Infirmary, and the Department of Biochemistry, School of Medicine, Leeds, it is reported that fluoride (0·1M), arsenite (0·01M), iodoacetate (0·017M), and cyanide (0·001M) acted as powerful inhibitors of endogenous respiration of the mycelial mats in Sabouraud's broth cultures of *Microsporum canis* and *M. audouini* [1, No. 2506].

602. Benedek (T.). **Selective, chemical epilation in the treatment of tinea capitis contrasted with the diffuse X-ray epilation.**—*Urol. cutan. Rev.*, 55, 9, pp. 539–550, 5 figs., 1951.

Existing methods for the control of tinea capitis (*Microsporum audouini* and *M. lanosum* [*M. canis*]) are reviewed on the basis of 29 contributions to the

relevant literature, and a full account is given of the author's successful treatment of 73 cases of the complaint in Chicago, Illinois, with a compound prepared according to the following formula: 5 per cent. each of copper sulphate and chloral hydrate, 78 per cent. glycerin, 1 per cent. sodium lauryl sulphate, and 11 per cent. distilled water.

603. **Epidemic ringworm of the scalp.**—*Minn. Med.*, 35, 12, pp. 1143–1144, 1952.

Seventy-one cases of *Microsporum audouini* infection of the scalp, mostly among schoolchildren from East Grand Falls, were reported in Minnesota during 1952. A concise description of the complaint is given, supplemented by an account of the recognized methods for its diagnosis, treatment, and prevention.

604. La Touche (C. J.). **Some clinical and microscopic features of Microsporum canis Bodin infection of the skin and its appendages as it occurs in the Cat.**—*Vet. Rec.*, 65, pp. 680–681, 4 pl., 1953.

In studies at the University of Leeds, a Wood's lamp proved an indispensable aid for the detection of *Microsporum canis* in cats and kittens, for the animals concerned may carry only a few infected hairs. Out of 45 cats and kittens, reddish-brown crusts occurred in only four adult cats. Scaling may be trifling without exudation and the degree of inflammation varies greatly. Depilation resulting in bare patches is rare, and is usually accompanied by profuse scaling. Infection of the claw was recently detected by Wood's light, the appearance under natural light being greyish and somewhat pellucid. The microscopic characters of infection are described. *M. canis* is limited to the keratinized layers of the skin and appendages, the fungus having a special affinity for keratin. It can be detected in preparations of the scales, hairs, and whiskers. Infection most frequently occurs in kittens but also takes place in adult cats.

605. Cipollaro (A. C.). **Tinea capitis (Trichophyton cerebriforme).**—*Arch. Derm. Syph., Chicago*, 68, 2, pp. 226–228, 1953.

A 22-year-old Venezuelan woman resident at Manhattan, Kansas, was affected by tinea capitis (*Trichophyton cerebriforme* [*T. flavum*]), which caused diffuse alopecia and scarring, while the arms showed small areas of erythema. Diagnosis was complicated by the absence of fluorescence under Wood's light.

606. Sanderson (P. H.) & Sloper (J. C.). **Skin disease in the British Army in S.E. Asia. I. Influence of the environment on skin disease. II. Tinea corporis: clinical and pathological aspects, with particular reference to the relationship between T. interdigitale and T. mentagrophytes.**—*Brit. J. Derm.*, 65, 7–8, pp. 252–264; 9, pp. 300–309, 1 graph, 1953.

The results of a survey of dermatomycoses (1947 to 1949) among British troops in Malaya and Hong Kong are fully reported [2, No. 588]. Tinea corporis was encountered in 241 (37·8 per cent.) out of 636 serving in Hong Kong and 237 (30·1) out of 788 in Malaya, the corresponding numbers for Asiatic soldiers and European servicewomen in Malaya being 10 to 12 (6·7 and 9·8), respectively. *Trichophyton mentagrophytes* and *Epidermophyton floccosum* accounted, respectively, for 77 and 42 (61 and 33·3 per cent.) of the infections in an analysis of 126 positive cultures from 114 cases, the other species represented being *T. interdigitale*, *T. rubrum*, and *T. violaceum*. *T. rubrum* was isolated from seven of the nine Asiatics. The possible causes of the high incidence of infection by *T. mentagrophytes* are discussed.

607. Kaden (R.). **Experimentelle Untersuchungen über die antimykotische Wirkung von Fettalkoholsulfonaten.** [Experimental studies on the antimycotic effect of fatty alcohol sulphonates.]—*Z. Haut- u. Geschlechtskr.*, 14, 12, pp. 383–386, 3 figs., 1953.

In experiments at the Rudolf Virchow Hospital, Berlin, a preparation known as criniton, comprising a mixture of fatty alcohol sulphonates supplemented by salicylic acid, thymol, oil of rosemary, etc. (Chem. Fabrik Dr. Atzinger, Tassen), was fungicidal to Sabouraud's agar cultures of *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*] and *Microsporum gypseum* in two minutes and to *T. acuminatum* [*T. sabouraudi*] in ten.

608. Vivancos Gallego (G.). **Estudio de la fluorescencia de los dermatofitos (Trichophyton mentagrophytes).** [Study of the fluorescence of dermatophytes (*Trichophyton mentagrophytes*).]—*Act. dermo-sifilogr., Madr.*, 44, 3, pp. 185–189, 1 fig., 1952.

The results of studies on a strain of *Trichophyton mentagrophytes* supplied by F. Negroni from Buenos Aires, Argentina, confirmed the observations of other authors regarding the loss of fluorescence accompanying pleomorphism. The development of fluorescence did not appear to be affected in any way by the presence or absence of thiamin in the medium. Fluorescent, blue-green crystals were obtained from cultures on solid media by extraction with water at pH 4 and 2 per cent. hydrochloric acid.

609. Gonçalves (A. P.). **Epidermomicose causada pela associação de dois dermatofitos.** [Epidermomycosis caused by a combination of two dermatophytes.]—*Ann. bras. Derm. Sif.*, 25, 3, pp. 177–179, 1 fig., 1950. [English summary.]

A case of combined infection by *Trichophyton niveum* [*T. mentagrophytes*] and *T. purpureum* [*T. rubrum*] is reported from Brazil. It was characterized by diffuse, poorly delimited erythemato-squamous lesions on the legs and by onychomycosis. The above-mentioned species were isolated from cutaneous lesions. A cure was effected by topical applications of an oleaginous ointment containing precipitated sulphur and salicylic acid.

610. Drouhet (E.). **Recherches sur la nutrition des dermatophytes III.—L'histidine, facteur de croissance des Trichophyton du groupe rosaceum.** [Studies on the dermatophytes III.—Histidine, a growth factor for the *rosaceum* group of *Trichophyton*.]—*Ann. Inst. Pasteur*, 85, 6, pp. 791–799, 1 fig., 2 graphs, 1953.

Three strains of *Trichophyton rosaceum* and two referred to the *T. rosaceum* group were found to depend exclusively on histidine for their growth. The minimum concentration requisite for development lay between 1 and 2 μgm. per ml. and the optimum from 10 to 100. As a growth factor for *T. rosaceum*, histidine is almost entirely replaceable by carnosine (β-alanyl-histidine) and partially by histidyl-histidine.

611. Kligman (A. M.) & Gray (M.). **Trichophyton rubrum infection.**—*Arch. Derm. Syph., Chicago*, 66, 5, pp. 662–663, 1952.

Scaling and fissuring lesions of the right palm and right foot of a 62-year-old male are described from New York. They had been present for eight or nine years and scrapings were found to be positive for *Trichophyton rubrum*. The unilateral lesions are said to be characteristic and their persistence in spite of treatment is emphasized.

612. Lazar (M. P.). **Recurrent, fixed, erysipelas-like dermatophytid.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 574–576, 1953.

The repeated recurrence of erysipelas-like lesions on the site of a previous leg wound in a 24-year-old male is reported from the Osaka Army Hospital,

Japan. Antibiotic therapy was ineffective, but the control of a *Trichophyton purpureum* [*T. rubrum*] infection of the feet completely prevented the return of the trouble. The importance of considering the possibility of dermatophytid reactions in this type of case is emphasized.

613. Ludwig (J. S.). **Sycosis barbae due to Trichophyton rubrum (purpureum).**—*Arch. Derm. Syph., Chicago*, 68, 2, pp. 216–218, 1953.

A case of tinea barbae due to *Trichophyton rubrum* is reported from New York, where the disease is now rare as a result of improved hygiene: the patient, however, had a history of recurrent 'athlete's foot' and tinea cruris.

614. Lyons (R. E.) & Livingood (C. S.). **Laboratory test for evaluation of fungicidal solutions.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 566–571, 1 fig., 1953.

A method of evaluating fungicidal solutions which also tests their powers of penetration is described from the University of Texas School of Medicine. Discrete colonies of *Trichophyton purpureum* [*T. rubrum*], obtained by growing the fungus on ox gall agar, are flooded with the solution to be tested, washed, and transferred to fresh medium for observations on their growth. Fungicides capable of penetrating the mycelial mat have a high rating by this test, and it is considered possible that in clinical practice they may gain access to mycelium embedded in skin.

615. Lyons (R. E.), Weller (C. W.), McNamara (J. W.), & Derzavis (J. L.). **The treatment of Trichophyton purpureum infections.**—*U.S. Forces med. J.*, 4, 8, pp. 1175–1180, 1953.

Studies on 17 patients of both sexes at the Walter Reed Army Hospital, Washington, showed that a liquid preparation containing propionic, caprylic, undecylenic, salicylic, and sulphosuccinic acids and their salts was more effective against obdurate infections of the body, feet, and hands due to *Trichophyton purpureum* [*T. rubrum*] than other recognized formulae. The average duration of the disease in these patients was 7·6 years and all had had previous treatment, but all infections were clinically cured by the use of this lotion for 26 days, except for the persistence of slight scaling in a few cases; this symptom also tended to recur when the medication was discontinued. There were no signs of irritation or sensitization.

616. Reiss (F.), Rosenbaum (E. M.), & Caroline (Leona). **The course of Trichophyton gypseum infection in Rabbits previously infected with Trichophyton purpureum. The effect of ACTH on the trichophytin test.**—*J. invest. Derm.*, 21, 3, pp. 191–198, 1 fig., 1953.

In experiments at New York University and Bellevue Hospital, New York, the inoculation of castrated male rabbits with a fluffy, sporulating strain of *Trichophyton* (*T. rubrum*) did not result in persistent infection, but on subsequent inoculation with *T. gypseum* (regarded by the author as synonymous with *T. mentagrophytes*) the animals reacted by very severe though transient symptoms. Non-castrated rabbits which had not been previously infected showed a similar reaction to *T. mentagrophytes*. The trichophytin response of the infected animals was suppressed by adequate doses of ACTH [2, Nos. 168, 331].

617. Majewski (C. Z.). **Spostrzeżenia nad pobudzaniem i hamowaniem wzrostu grzybów chorobotwórczych : Achorion schoenleini i Trichophyton gypseum granulosum przez witaminy PP, B6, C, D2, D3, A i K.** [Observations on the stimulatory and inhibitory action of vitamins PP, B6, C, D2, D3, A, and K on

fungal growth: *Achorion schoenleini* and *Trichophyton gypseum granulosum*.]—*Polsk. Tyg. Lek.*, 7, 43, pp. 1385–1386, 1952. [Abs. in *Excerpta med., Amst.*, Sect. XIII, 7, 8, pp. 322, 1953.]

In *in vitro* experiments at Poznań, Poland, vitamin PP partially inhibited the growth of *Achorion* [*Trichophyton*] *schoenleini* and *T. gypseum granulosum* [*T. granulosum*], while K at a concentration of 5 mg. per 100 l. completely arrested the development of both species on Sabouraud's medium [cf. 2, No. 122].

618. Fishman (I. M.). **Epidemic favus of the glabrous skin.**—*Arch. Derm. Syph., Chicago*, 68, 1, pp. 38–43, 4 figs., 1953.

An epidemic of favus of the glabrous skin caused by *Trichophyton schoenleini* is reported among the staff of Queens General Hospital, New York. The position of the lesions and the fact that the cases were confined to two floors of the building suggest that transmission was effected by means of hospital gowns.

619. Costello (M. J.). **Tinea capitis (Trichophyton tonsurans) of the scalp in a child.**—*Arch. Derm. Syph., Chicago*, 68, 3, pp. 345–346, 1953.

A case of tinea capitis due to *Trichophyton tonsurans* in a four-year-old Puerto-Rican girl is reported from Manhattan, Kansas, and it is suggested that Puerto Rico may be the endemic centre from which this disease is carried into the United States by emigrants. Diagnosis is complicated by the fact that infected hairs do not fluoresce under Wood's light; epilation is said to be the only certain remedy, unless there is an inflammatory reaction, when cure is spontaneous.

620. Shackelford (P. O.), Morgan (R. J.), Young (C. J.), & Lamb (J. H.). **Tinea capitis due to Trichophyton schoenleini (favus). Report of six cases in Oklahoma.**—*J. Okla. med. Ass.*, 46, 2, pp. 41–42, 2 figs., 1953.

Six cases of favus (*Trichophyton schoenleini*), believed to be the first records for the State, are reported from Oklahoma. All were seen at the University Hospital, Oklahoma City, during the last three years, four of the patients being children and two adults, a male aged 33 and a female 18. No benefit was obtained from topical applications of various ointments, but in one case of two years' duration the condition yielded to X-ray epilation.

621. Simon (C. R.) & Schwarz (J.). **Trichophyton sulphureum in southern Ohio area.**—*Arch. Derm. Syph., Chicago*, 68, 3, pp. 335–336, 1953.

Tinea capitis and tinea corporis due to *Trichophyton sulphureum* appear to be spreading in the United States from their original focus in the south-west to the more central parts such as Pennsylvania and Ohio. Two cases are described from Cincinnati General Hospital, Ohio, in one of which there was no fluorescence under Wood's light at the first examination, but a blue-grey fluorescence two months' later. It is suggested that this organism, which is difficult to detect and treat, may be increasingly responsible for outbreaks of tinea in the United States.

622. Price (H.) & Taylor (D. R.). **Trichophyton tonsurans (crateriforme) infection of the scalp.**—*Calif. Med.*, 76, 4, pp. 283–288, 5 figs., 1952.

Of 484 cases of tinea capitis observed over a 2½-year period at a clinic of the Los Angeles (California) City Health Department, 57 (11·8 per cent.) were caused by *Trichophyton tonsurans*. The white, fluorescent glow of infected hairs under Wood's light is a distinctive feature, contrasting with the green

tinge imparted by *Microsporum* spp. *T. tonsurans* may produce either dry, scaly lesions or an inflammatory reaction (kerion), the latter responding more readily to topical applications of various antimycotics than the former, for which X-ray epilation appears to be indicated.

623. Costello (M. J.) & Gasner (W. G.). **Tinea tonsurans.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 604–605, 1953.

A description is given of tinea capitis caused by *Trichophyton tonsurans* in a four-year-old girl at Lenox Hill Hospital [New York]. As this fungus does not fluoresce under Wood's light an incorrect diagnosis may easily be made. It is suggested that *T. cerebriforme* [*T. flavum*], *T. acuminatum* [*T. sabouraudi*], and *T. sulphureum* are merely variants of *T. tonsurans*.

624. Gay Prieto (J.), Peña Yanez (J.), Jaqueti del Pozo (G.) & Alvarez Lara (R.). **Acción de los rayos X sobre los 'dermatophytes'.** [Action of X-rays on the dermatophytes.]—*Med. colon., Madr.*, 22, 5, pp. 453–461, 3 figs., 1953.

In further studies on dermatophytes at the School of Hygiene, Madrid [cf. 1, No. 2168; 2, No. 378], unfiltered X-rays of 70 kw., 4 A., at a distance of 25 cm., exerted no lethal action on *Trichophyton violaceum* in five samples of hair and skin scrapings or on *T. schoenleini* in two, as shown by the completely normal appearance of honey agar cultures from the infected material. On the other hand, the treatment caused rapid pleomorphic degeneration in five samples of *Microsporum canis*.

625. Höhle (P.). **Nachweis von antibiotischen Stoffwechselprodukten in Kulturen von hautpathogenen Pilzen.** [Demonstration of antibiotic metabolic products in cultures of dermatophytes.]—*Arch. Derm. Syph., Wien*, 196, 4, pp. 356–366, 4 graphs, 1953.

At the University Skin Clinic, Göttingen, Germany, the culture filtrates of four out of 30 freshly isolated strains of *Trichophyton granulosum*, *T. plicatile* [1, No. 799], *Aleurisma carnis* [1, No. 2329], and *Streptomyces albidoflavus*, inhibited the growth of various bacteria, thereby demonstrating the existence of antibiotic substances among the dermatophytes [cf. Wolf in *Mycologia*, 37, p. 796, 1945]. In some cases, on the other hand, bacterial growth was stimulated by the filtrates, presumably through the operation of accessory growth substances.

626. Ito (K.) & Ota (N.). **Effects of crude drugs against pathogenic fungi. III. Effect of tannin-containing crude drugs on the growth of some fungi.**—*Bull. pharm. Res. Inst. Osaka med. Coll.*, 3, pp. 13–17, 1952. [Abs. in *Chem. Abstr.*, 47, 21, p. 11335, 1953.]

Of several tannin-containing crude drugs tested against various dermatophytes at the Osaka Medical College, Japan [cf. next entries], 1 per cent. aqueous solution of *Uncaria gambir* exerted a fungicidal action on *Trichophyton pedis* and *T. granulosum* but failed to control the growth of *T. gypseum* [*T. mentagrophytes*], *T. purpureum* [*T. rubrum*], or *Aspergillus niger*, the last-named succumbing only to *Sanguisorba officinalis* root extract at the same strength. A solution of the gall of *Rhus javanica* was active against *T. pedis*, *T. rubrum*, and *T. mentagrophytes*.

627. Ito (K.) & Maeda (S.). **Pityrol III. Antibiotic activities in the fractions of pityrol.**—*Bull. pharm. Res. Inst. Osaka med. Coll.*, 3, pp. 17–19, 1952. [Abs. in *Chem. Abstr.* 47, 21, p. 11335, 1953.]

Colonies of *Trichophyton purpureum* [*T. rubrum*], *T. gypseum* [*T. mentagrophytes*], *Microsporum japonicum*, and *Aspergillus niger* [cf. preceding and next entries] were immersed for 24 hours at 25° C. in emulsions of pityrol and its

fractions I, II, and III prepared with gum arabic and bouillon and diluted to contain 10, 1, 0·1, or 0·01 per cent., washed in distilled water, and cultured for two days on agar. Pityrol and its fractions I and II exerted a comparable measure of inhibition against the organisms tested, but III was less effective.

628. Ito (K.) & Kuroda (P. K.). **Effects of photosensitizing dyes against pathogenic fungi. II. Effects of the photosensitizing dye, platonin, on the growth of fungi.** —*Bull. pharm. Res. Inst. Osaka med. Coll.*, 3, pp. 20–26, 1952. [Abs. in *Chem. Abstr.*, 47, 21, pp. 11335, 1953.]

All concentrations ranging from 1 in 10,000 to 1 in 10,000,000, a photosensitizing dye named platonin (3, 3′, 3″-triheptyl-4, 4′, 4″-trimethyl-7-(2″ methylthiazolyl-2-2′-trimethine) thiazolocyanine 3, 3″-diiodide) stimulated the growth in pure culture of *Trichophyton gypseum* [*T. mentagrophytes*], *T. purpureum* [*T. rubrum*], *T. pedis*, *T. granulosum*, and *Aspergillus niger* [cf. preceding and next entries], whereas at 1 in 1,000 it operated in a contrary manner. *T. pedis* was the most sensitive of the species tested to the hormone-like influence of the dye and *T. mentagrophytes* the least so.

629. Ito (K.) & Sugano (S.). **Effects of vegetable hormones against pathogenic fungi. I. Effects of sodium 2,4-dichlorophenoxyacetate on the growth of some pathogenic fungi.**—*Bull. pharm. Res. Inst. Osaka med. Coll.*, 3, pp. 29–35, 1952. [Abs. in *Chem. Abstr.*, 47, 21, p. 11335, 1953.]

At concentrations of 1 in 10 to 1 in 100, 2,4-D completely inhibited the growth *in vitro* of *Trichophyton gypseum* [*T. mentagrophytes*], *T. purpureum* [*T. rubrum*], *T. pedis*, and *T. granulosum*, and arrested that of *Aspergillus niger* [cf. preceding and next entries], but at higher dilutions the opposite effect was produced.

630. Ito (K.) & Kuroda (T.). **Biological behavior of pathogenic fungi against various remedies. I. Growth of pathogenic fungi in the presence of vitamin K_3.** —*Bull. pharm. Res. Inst. Osaka med. Coll.*, 3, pp. 46–50, 1952. [Abs. in *Chem. Abstr.*, 47, 21, pp. 11335–11336, 1953.]

The growth of agar cultures of *Trichophyton purpureum* [*T. rubrum*], *T. pedis*, and *T. granulosum* ceased entirely and that of *T. gypseum* [*T. mentagrophytes*] and *Aspergillus niger* [cf. preceding entry] was inhibited by vitamin K_3 [cf. 2, Nos. 171, 617] at concentrations ranging from 1 in 100 to 1 in 1,000, but at higher dilutions their development was promoted.

631. Ito (K.) & Sugano (S.). **Effects of photosensitizing cyanin dye lumin upon the growth of fungi.**—*Bull. pharm. Res. Inst. Japan, 1951*, 2, pp. 36–45, 1951. [Abs. in *Chem. Abstr.*, 47, 20, p. 10611, 1953.]

At the Osaka Medical College, Japan, the growth in pure culture of *Trichophyton gypseum* [*T. mentagrophytes*], *T. purpureum* [*T. rubrum*], *T. pedis*, and *T. granulosum* was inhibited for 120 hours by 24 hours' immersion in lumin at a concentration of 1 in 10,000.

632. Jung (H.-D.). **Über die Brauchbarkeit neuentwickelter Pilzkulturextrakte (Trichophytin und Trichophyton).** [On the utility of newly developed fungus culture extracts (trichophytin and trichophyton).]—*Z. ärtzl. Fortbild.*, 47, 19, pp. 685–688, 6 figs., 1953.

Very satisfactory results were obtained in intracutaneous tests at the University Skin Clinic, Greifswald, Germany, with trichophytin (Hoechst) and trichophyton (Sächs. Serumwerke, Dresden), on 32 patients suffering from various types of dermatomycosis. The former preparation evoked 18 very strong,

eight strong, four weak, and two suggestively positive reactions, while the corresponding figures for the latter were 15, 10, five, and two, respectively.

633. Okazaki (K.) & Homma (A.). **Chemotherapeutics for dermatomycosis. IX. Antifungal effect of oxine with some metal salts.**—*J. pharm. Soc. Japan*, 73, pp. 818–820, 1953. [Abs. in *Chem. Abstr.*, 47, 22, p. 12636, 1953.]

In *in vitro* experiments on the therapy of dermatomycoses at the Niigata University School of Medicine, Japan, the combined effect of oxine with sulphate of iron, zinc, magnesium, or copper sulphates was tested against *Trichophyton* and *Achorion* [*T.*] spp. in the pH range from 5 to 9. The addition of iron or zinc exerted no influence and that of magnesium decreased the effect of oxine, while the combination with copper was equal or superior to the oxine alone.

634. Porto (J. A.). **The use of cellophane tape in the diagnosis of tinea versicolor.**—*J. invest. Derm.*, 21, 4, pp. 229–231, 2 figs., 1953.

At the University of Michigan Medical School a method for the diagnosis of tinea versicolor has been developed in which an impression of the lesion is obtained on the sticky side of a strip of cellophane tape. On microscopic examination of the tape, spores and sometimes hyphae of *Malassezia furfur* are clearly visible in the adherent scales and are easily distinguishable from artifacts. No difference in the morphology of the fungus was observed in the nine patients studied despite clinical variation in the lesions. The method proved to be inapplicable in cases of *Trichophyton rubrum* infection and in erythrasma [*Nocardia minutissima*: 1, No. 1499].

635. Batte (E. G.) & Miller (W. S.). **Ringworm of Horses and its control.**—*J. Amer. vet. med. Ass.*, 123, 917, pp. 111–114, 3 figs., 1953.

Satisfactory control of 'girth itch' in horses, caused by *Trichophyton equinum*, *Microsporum equinum* [1, Nos. 632–634, 834], and *T. granulosum*, was obtained in New Jersey by washing with a solution of 2 oz. ortho HL 614 (N-trichloromethylthio-tetrahydrophthalimide) in 12 qts. water. also 1128

636. Dean (F. M.), Robertson (A.), Roberts (J. C.), & Raper (K. B.). **Nidulin and 'ustin': two chlorine-containing metabolic products of Aspergillus nidulans.**—*Nature, Lond.*, 172, 4373, p. 344, 1953.

A mould isolated in 1944 (*Science*, 102, p. 11, 1945) and believed to be a strain of *Aspergillus ustus* is now considered to be a non-ascosporic strain of *A. nidulans*. The crystalline metabolic product, herein termed nidulin, inhibited the growth of *Trichophyton tonsurans* and *Microsporum audouini* at 0·1 per cent. The name *nor*-nidulin is proposed to replace ustin, another compound isolated by Doering *et al.* from the same fungus strain (*J. Amer. chem. Soc.*, 68, p. 725, 1946).

637. Takahashi (I.). **A new antifungal substance 'flavacid'. Studies on the antibiotic substances from Actinomyces, XXVII.**—*J. Antibiot.*, 6, 3, pp. 117–121, 1 graph, 1953.

At the Faculty of Medicine, Tohoku University, Sendai, Japan, a substance designated flavacid, isolated from the mycelium of the streptothricin-producing *Actinomyces flavus*, inhibited the growth *in vitro* of *Candida albicans*, *Trichophyton gypseum* [*T. mentagrophytes*], *T. interdigitale*, and *T. purpureum* [*T. rubrum*] at concentrations of 0·6, 1·25 to 25, 1·25, and 1·25 and 2·5 mgm. per ml., respectively. In small-scale clinical trials it was fairly effective in the therapy of trichophytia pomphoriciformis and trichophytia macrovesiculosa.

638. Bouillenne (R.) & Bouillenne-Walrand (M.). **Influence du pH sur l'action inhibitrice des hormones végétales de synthèse dans la croissance de Trichophyton (div. sp.).** [Influence of the pH on the inhibitory action of synthetic plant hormones in the growth of various species of *Trichophyton*.]—*Bull. Soc. sci. Liège*, 11, pp. 617–633, 3 figs., 1951. [In *Arch. bot. Univ. Liège*, 21, 1951. Received September, 1953.]

At the Botanical Institute, University of Liège, Belgium, the growth of the actively growing mycelium of *Trichophyton schoenleini*, *T. violaceum*, and *T. crateriforme* [*T. tonsurans*] on Sabouraud's agar was inhibited completely by the pure acids 2-4 D and 2-4-5 T (trichlorophenoxyacetic acid) only at pH 4·5 to 4·9, while Solvay's technical quality sodium salt of 2-4-5 T at 0·006 M. exerted the same effect at a range from 4·7 to 6·9, probably owing to the presence of phenolic impurities [2, No. 142].

In further experiments 2-5 D, 2-3 D, and the Dow Company's chlorophenoxyacetic acid, all at 0·006 M., inhibited the growth of *T. tonsurans* between pH 4·7 and 5·2, while Solvay's technical sodium salt of 2-5 D retarded its development at pH 5·7. Solvay's technical 2-5 D and Light and Company's 2-4-5 T showed activity intermediate between that of the pure compounds and of Solvay's 2-4-5 T salt. At pH 5·7 to 5·8 there was marked synergy between the two technical products. The 2-5 D sodium salt was far more inhibitory than the pure product and Light and Company's 2-4-5 T was superior in this respect to Solvay's pure acid product. Only Light's 2-4-5 T showed any appreciable activity at pH 6·7 to 6·9.

639. Wooldridge (W. E.). **The clinical assay of a new fungicide, P-594 (2-nitro-2-bromo-1-methoxy-1-phenylpropane).**—*J. invest. Derm.*, 21, 2, pp. 121–123, 1953.

In clinical trials against various dermatomycoses in Washington and Missouri the compound P-594 (2-nitro-2-bromo-1-methoxy-1-phenylpropane), applied in a vanishing cream base, showed considerable promise. *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, *Microsporum fulvum* [*M. gypseum*], and *Candida* sp. responded promptly and the effect of the compound on skin (not nail) infection by *T. rubrum* was superior to that of asterol [2, No. 390].

640. Schwanitz (F.) & Hahn (H.). **Ein Bakterienstamm mit fungistatischer Wirksamkeit gegenüber phytopathogenen und humanpathogenen Pilzen. Über die Wirksamkeit von Bacterium '13' gegenüber einigen humanpathogenen Pilzarten und -stämmen. Ein weiterer Bakterienstamm (Bacterium 16) mit fungistatischer Wirkung gegen human und phytopathogene Pilzarten.** [A bacterial strain with fungistatic activity towards phytopathogenic and human-pathogenic fungi. On the activity of bacterium '13' towards some human-pathogenic fungus species and strains. A further bacterial strain (bacterium 16) with fungistatic efficiency against human-pathogenic and phytopathogenic fungus species.]—*Naturwissenschaften*, 40, 17, pp. 464–465, 2 figs.; 18, p. 489, 3 figs., 1953.

A bacterium designated '24', which arose as a contaminant in *in vitro* tests with bacterium 13 (*Naturwissenschaften*, 40, p. 202, 1953) against human-pathogenic fungi at the Max Planck Breeding Institute, Niedermarsberg, Westphalia, Germany, exerted a fungistatic action on seven dermatophytes in pure culture on Liebig agar, the percentage of inhibition (in relation to the controls) ranging from 18 for *Epidermophyton inguinale* [*E. floccosum*] to 80·1 for *Microsporum audouini*, while the corresponding values for three strains of *E.* [*Trichophyton*] *interdigitale* were 61·5, 65·5, and 69·4, respectively, for two of *T. gypseum* [*T. mentagrophytes*] 67·5 and 58, and for *Achorion* [*T.*] *schoenleini* 55·2.

Bacterium 13 suppressed the growth of *E. floccosum* and one strain of *E.* [*T.*] *rubrum* to an appreciable extent (69·2 and 71·8 per cent., respectively), and that of *M. audouini* very slightly (14), the other organisms tested being unaffected.

Bacterium 16 exercised the most potent action on *M. audouini*, with 63·7 per cent. fungistasis, followed by *E. floccosum* (60·7) and one strain of *T. rubrum* (51·3).

641. Úri (J.) & Szabó (G.). **The inhibition of the growth of dermatophytes by 8-hydroxyquinoline.**—*Acta physiol. Acad. Sci. Hung.*, 3, 2, pp. 425–429, 1952. [Russian summary.]

At the Medical University, Debrecen, Hungary, most of the spores of 11 dermatophytes, including *Achorion* [*Trichophyton*] *schoenleini*, *T. gypseum* [*T. mentagrophytes*], *T. g. asteroides* [*T. mentagrophytes*], *T. cerebriforme* [*T. flavum*], and *T. violaceum*, were destroyed in 30 to 60 minutes by contact with 0·5 per cent. solution of 8-hydroxyquinoline.

642. Jung (H.-D.). **Zur Kenntnis der Scopulariopsis species. Klinische, experimentelle und mykologische Betrachtungen.** [Contribution to the knowledge of the species of *Scopulariopsis*. Clinical, experimental, and mycological observations.]—*Arch. Derm. Syph., Wien*, 195, 1, pp. 77–95, 1952.

This exhaustive discussion of various questions concerning *Scopulariopsis* spp. was prompted by the first published German record of *Scopulariopsis fusca* and the first observation of *S. brevicaulis* in Germany [2, No. 126]. A case of involvement of the thyroid cartilage in a 52-year-old farmer by *S. b.* var. *hominis* is fully reported from the University Skin Clinic, Greifswald, where a dual infection of the scalp of a 13-year-old girl by *Achorion* [*Trichophyton*] *schoenleini* and *S.* sp. and a mycosis of the foot of a nine-year-old child due to the latter fungus were also investigated. In *in vitro* experiments portions of healthy finger-nails and hairs of the head and beard were rapidly colonized by *S.* sp.

643. Stockmann (G.). **Zur Behandlung hartnäckiger Ekzeme und Dermatosen mit Joccar.** [On the treatment of refractory eczemas and dermatoses with joccar.] —*Dtsch. med. J.*, 3, 23–24, pp. 597–598, 1952.

From Berlin the author reports successful results in the therapy of various dermatoses, including dyshydrosis associated with secondary fungal infections and pityriasis [versicolor: *Malassezia furfur*], with an ointment known as 'joccar' (Pharmaria, Berlin), containing fol. digitalis lanata, ascorbic acid [vitamin C], vitamin B complex, stilbene, and extracts of camomile and 'fungi imperfecti'.

644. Taschdjian (Claire L.) & Muskatblit (E.). **Method of staining fungi in cutaneous material after clearing with potassium hydroxide.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 579–582, 2 figs., 1953.

In this joint contribution from the Medical School and University Hospital, New York, the authors describe a method for the preservation and staining of the delicate hyphae of *Malassezia furfur* and *Candida albicans* in skin, nail, and hair tissue after preliminary examination in potassium hydroxide. The excess alkali is drawn off with filter paper and the specimens immersed in 5 to 10 per cent. lactic acid until the pH is 3 to 5 (about three minutes). After removing excess acid the specimens may be stained in cotton blue and lactophenol for five to 30 minutes, or the Hotchkiss–McManus method may be used after fixing the specimens on the slide by covering with 95 per cent. alcohol and drying for several hours.

645. Vanbreuseghem (R.) & Tritsmans (E.). **Culture des dermatophytes sur cheveux isolés, in vitro en milieux liquides.** [Culture of dermatophytes on single hairs *in vitro* in liquid media.]—*C.R. Soc. Biol., Paris*, 147, 7–8, pp. 736–739, 1953.

Ctenomyces interdigitalis [*Trichophyton interdigitale*], *T. rubrum*, *Microsporum canis*, and *Epidermophyton floccosum* grew as well on single hairs in liquid media (bouillon, tap water, and distilled water) as in the air [1, No. 536], although their development under the former conditions was slower. The fungi did not colonize hairs in bouillon enriched with 2 per cent. glucose or 1 per cent. peptone.

646. Whitlock (F. A.). **Pityrosporum ovale and some scaly conditions of the scalp.**—*Brit. med. J., 1953*, 4808, pp. 484–487, 1 graph, 1953.

From an examination of 200 normal scalps in the West Cornwall Clinical Area the author concludes that *Pityrosporum ovale* is not concerned in the etiology of dandruff. The fungus is, however, correlated quantitatively with sebaceous secretion.

647. Purandare (N. M.) & Deoras (S. M.). **Rhinosporidiosis in Bombay.**—*Indian J. med. Sci.*, 7, 11, pp. 603–610, 4 figs., 1953.

Of 100 cases of rhinosporidiosis (*Rhinosporidium seeberi*) occurring in Bombay between 1930 and 1952, only one was in a woman. The youngest patient was seven years of age and the oldest 69. In 91 patients the nose and nasopharynx were involved, in five the eyes, and in one each the larynx, urethra, and skin.

648. Cipollaro (A. C.). **Sporotrichosis, lymphangiectatic type.**—*Arch. Derm. Syph., Chicago*, 68, 5, pp. 598–599, 1953.

The case of a 19-year-old boy suffering from sporotrichosis (*Sporotrichum schencki*) is presented. He had worked on a tulip farm on Long Island, New York, for ten years, and the infection was traced to the salted hay used to cover the bulbs at certain times of the year. This is the 11th case of the disease occurring among workers on bulb farms in the area.

649. Cole (H. N.), Driver (J. R.), & Cole (H. N.). **Sporotrichosis de Beurmann (now healed).**—*Arch. Derm. Syph., Chicago*, 68, 1, p. 99, 1953.

A case of *Sporotrichum schencki* infection of the neck and face of a nine-year-old boy, which responded to iodide therapy, is reported from Cleveland, Ohio.

650. Singer (J. I.) & Muncie (J. E.). **Sporotrichosis; etiologic considerations and report of additional cases from New York.**—*N.Y. St. J. Med.*, 52, 17, 1, pp. 2147–2153, 4 figs., 1952.

Sporotrichosis (*Sporotrichum schencki*) remains prevalent in the Midwest of the United States, with a possible southward shift of the centre of maximum intensity. All the 12 cases reported in the last 11 years originated in New York City or Long Island. Seven proved cases and one presumptive case of sporotrichosis are presented, all from a limited area on Long Island, where six of the patients contracted the disease on bulb farms from a marsh hay cord grass mulch. The first case of feline sporotrichosis with transmission to a human in the United States is reported. Relative humidity figures for neighbouring districts suggest a coincidence between the time of maximum incidence of the disease, October to January, and the period of high atmospheric humidity.